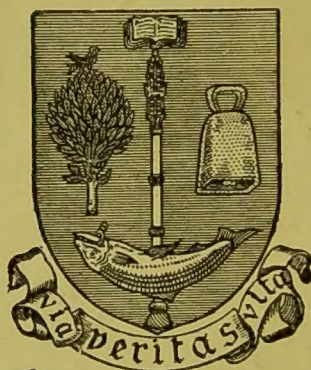


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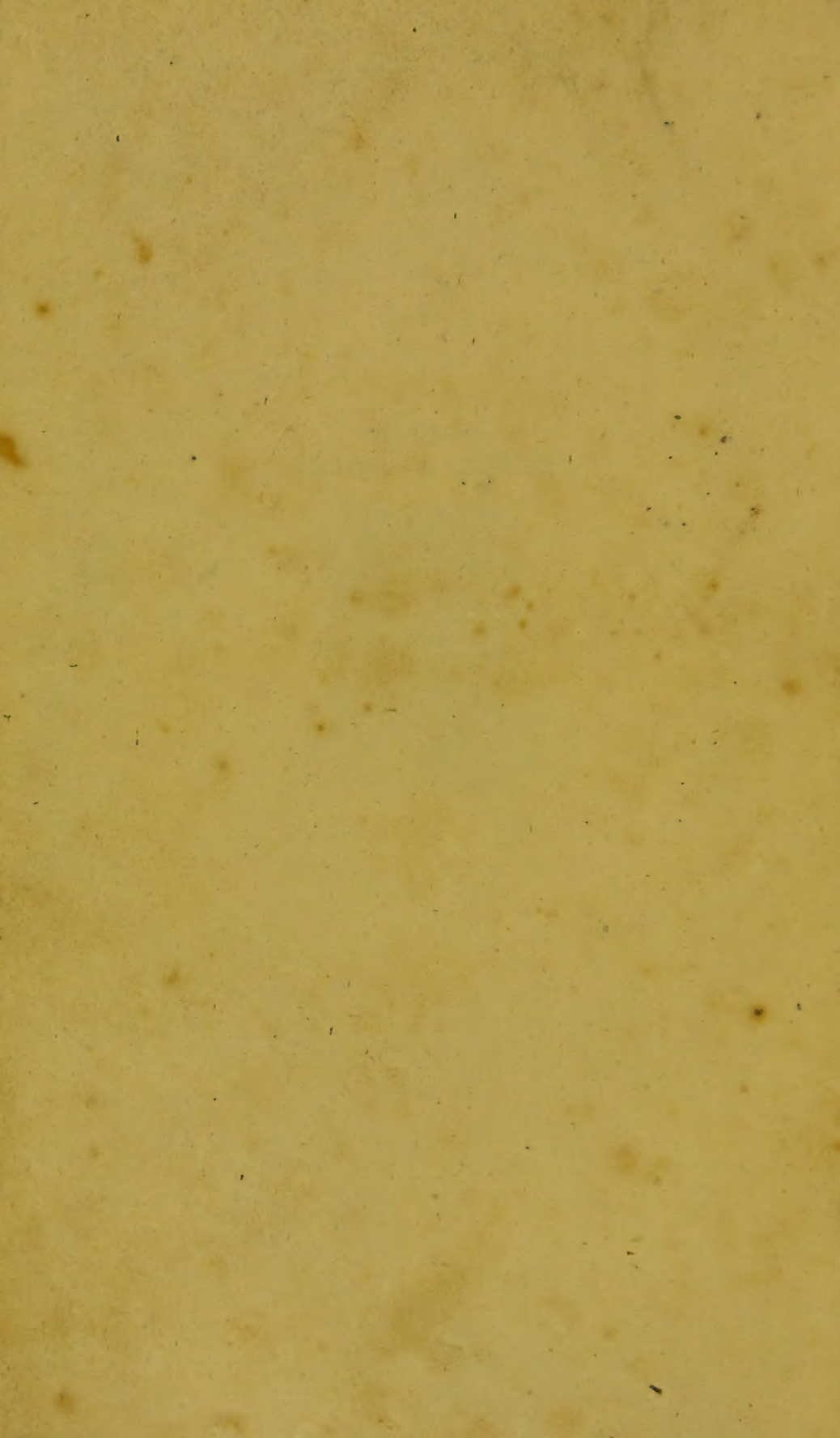
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EDINBURGH
P R A C T I C E
OF
PHYSIC, SURGERY, AND MIDWIFERY.

EDWARDS

PRACTICE

30th

PHYSIC, SURGERY, AND MIDWIFERY

THE

EDINBURGH PRACTICE

OF

PHYSIC, SURGERY,

AND

MIDWIFERY;

PRECEDED BY

AN ABSTRACT OF THE THEORY OF MEDICINE,

AND

THE NOSOLOGY OF DR. CULLEN

AND INCLUDING

UPWARDS OF SIX HUNDRED AUTHENTIC FORMULÆ,

FROM THE BOOKS OF ST. BARTHOLOMEW'S, ST. GEORGE'S,
ST. THOMAS'S, GUY'S, AND OTHER HOSPITALS IN
LONDON, AND FROM THE LECTURES AND
WRITINGS OF THE MOST EMINENT
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With Twenty Quarto Plates.

A NEW EDITION, IN FIVE VOLUMES.

VOL. II.

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TABLE OF CONTENTS

OF

THE SECOND VOLUME.

	PAGE
LUMBAGO ---Much resembling rheumatism and gout, yet differing from both---Described by Sauvages as terminating in psoas abscess--- Dr. Ferriar's liniment for	1
ERYSIPELAS ---Two species of---Description of---When attacking the face does not produce any remission of the fever---Delirium---Signs of a fatal termination. Erysipelas of the face, how to be cured---Evacuations, under what circumstances allowable. Erysipelas of other parts not dangerous---Translocation to an internal part never seen by Cullen. Antiphlogistic treatment of erysipelas less proper in London than in Scotland---Professor Hufeland's remarks on the erysipelas of new-born children---Its cure. Opinions of Drs. Wall and Stokes as to the contagious nature of erysipelas, in opposition to Cullen	2
<i>Erysipelas with phlyctenæ</i> ---Differing in what, from the former---Cure the same	3
PLAGUE ---Never seen by Cullen---History and description of, as described by authors---Enlargement of the heart and liver mentioned by Sir John Pringle---Proved by dissections at Marseilles---Summary of nine cases. Dr. Patrick Russel's remarks on its most important concomitants---The absence of pestilential eruptions not decisive of the non-existence of the plague---Carbuncles---Detailed cases of the plague on board a British ship in 1799 by Mr. Tainsh. The appellation of the plague given to diseases contagious from other causes---Remarkable instance of this, at Buffarah, by Mr. Hunter---First symptoms described	8
<i>Prevention</i> ---Means of considered---Contagion to be avoided, enforcing quarantines---By preventing communication with the infected---By prophylactics. The cure how to be attempted---Bleeding countenanced by Sydenham---Disapproved by Dr. Russel---Removing spasm of the extreme vessels deemed important by Cullen---Repeated emetics advised by a Russian physician---Sweating moderately, favourable---Treatment recommended by Fordyce	30
SMALL-POX ---Distinct and confluent---Both described---Caused by a peculiar contagion---The confluent most dangerous---Often followed by a morbid state of the body---From what cause	34
<i>Inoculation</i> , the most mild form of the disease---Precautions recommended by Cullen---The diseased states, what, that should hinder this practice---Seasons most proper for it---Diet---Preparatory course of medicine---Purging how useful---The eruptive fever chiefly to be attended to	39
Treatment of small-pox when violent---Exposure to cool air---Vomiting. Convulsions preceding the eruption in infants, in what light considered. The pustules on the face, most material indications of a fatal or favourable	

able event—When marks of putrescency occur, how to be treated—Formulae of the hospitals referred to—Secondary fever, management of—Small beer and sp. vitriol. æther. recommended by Sydenham. Baron Dimisdale's instructions fully detailed—Digression on the communication of small pox to the foetus <i>in utero</i> —His account of the consequences of repelling the pustules by cold—Prejudices against inoculation not yet removed—Dr. Fordyce's paper on small-pox—Co-existence of small-pox and measles—Cases related	42
CHICKEN-POX, described by Dr. Heberden—A slight disease—Apt to be mistaken for small-pox—Marks by which it may be distinguished from the latter—Scarcely named as a disease by foreign writers—Mistakes in inoculating the matter of the chicken-pox—Disease resembling this with urgent symptoms, Dr. Heberden's account of	80
MEASLES—Regular and anomalous—Attended with quinsy—Name of in Scotland—Description of—Frequently attended with a diarrhoea—Followed by inflammatory affections. Causes and prognosis. Treatment such as may diminish the inflammatory diathesis—Bleeding—Demulcents—Opiates—Purging. Observations and formulæ of Dr. Hugh Smith—Divided by Dr. Temple into <i>inflammatory</i> and <i>putrid</i> —Cases of the latter. Measles inoculated, result of	82
MILIARY FEVER—History and description of—Affects all persons indifferently—Lying-in women especially—Often fatal—Denied by Cullen to be a new disease—The eruption caused by sweating, and how—Differing from other exanthemata, in what—Always a symptomatic and factitious affection—The application of cold air requisite—A contrary treatment hurtful—Remedies suited to the primary disease—What	92
SCARLET FEVER—Mild, and accompanied with ulcers in the throat—Accounts of, by Sydenham—By Withering—Symptoms and progress in general—At particular seasons—How distinguished from other diseases—Scarlatina anginosa and gangrenosa contrasted. Reasons for supposing it the same with the malignant ulcerous sore-throat of Huxham and Fothergill. Causes enumerated under nine heads	98
The means usually resorted to for the cure separately considered—Blood-letting—Vomiting—Purging—Sudorifics, cordials, and alexipharmics—Diuretics—Bark—Opiates—Blisters. Dropsical symptoms succeeding, how to be treated	103
Account of the scarlatina anginosa, as it appeared in London in 1796, by Dr. Sims—Symptoms which accompanied the disease from the beginning—Phenomena in cases of a fatal termination—Remedies prescribed—Topical remedies, how far serviceable—Bleeding—Strong purgatives—Exposure to the air. Two unsuccessful cases related—Miscellaneous reflections—Prophylactic treatment. Dr. Sims's abridged account of epidemics from 1590—First constitution—Second—Third, &c. to the twenty-second. Dr. Lettsom's on scarlatina in 1793—Progress of the disease in the neighbourhood of London—Cases. Dr. Sims on a species of scarlatina which appeared in 1798—Mode of its attack—Difficult of cure—What ought to be avoided	106
NETTLE RASH—Why so named—Description of—How distinguished from the itch. Causes assigned for it by Dr. Heberden—Cowhage affects the skin in the same way—Hairs of a caterpillar described by Reaumur—Queries as to the nature of the disease—An extraordinary case by Dr. Monsey—How treated	137
PEMPHIGUS—A rare disease, never seen by Cullen—An instance of it by Dr. David Stuart of Aberdeen—How treated—Remarks on, by Dr. Stephen Dickson and Mr. Christie. Remarks on the disease by Dr. Dickson of Dublin—His objections to Cullen's definition—Treatment recommended. Observations by Mr. Christie—Division of Pemphigus	

into simple and complicated. Cases by Mr. Gaitskel—His opinion as to the methods of cure. Case by Mr. Upton	141
THRUSH —Description of—Infants subject to it—Aphthose fever, how produced—Prognosis—Formulæ for the cure of	149
BLEEDING AT THE NOSE —Description—Season of life when most occurring—Less benign kind, symptoms preceding—Occurs most in young persons, but may affect those advanced in life—In the former slight, in the latter serious. Treatment referable to two heads—Stopping the hemorrhage—Preventing its return—When excessive, how to be suppressed. Internal bleedings, formulæ to repress—Charms, how operating in hemorrhages—Opiates—Ligatures on the extremities—Cordials and volatiles, objections to	150
HÆMOPTYSIS —Five species described by authors—Account of—Criteria pointed out by Cullen to discover the source of the hemorrhage. <i>Causes</i> —External violence—Faulty proportion between the lungs and chest—Often hereditary—External heat an exciting cause—Sudden diminution of weight in the atmosphere—When from suppressed menses not dangerous. <i>Treatment</i> —Blood-letting—Refrigerants—Sedatives—Chalybeates and bark objected to by Cullen. Nitre, effects of in hæmoptysis—Blisters—Vitriolic acid—Valuable hints by Dr. Percival—Pneumatic treatment of it by Dr. Carmichael	155
PHTHISIS —Incipient and confirmed—Often occasioned by hæmoptysis—Causes of, enumerated by Cullen—Circumstantially examined—Persons most liable to consumptions described—Whiteness of the teeth—Dr. Foart Simmons's remarks—Flannel to the skin of the utmost importance as a preventive—Bark objected to—Stomach cough described by Dr. Stoll—May produce phthisis—Progress of phthisis when neglected—The hectic caused by acrimony. Remarks by Dr. Adams of Madeira	162
<i>Treatment of phthisis</i> —Indications obvious—Difficult however to fulfil—Remarks on the usual remedies—Dr. Fothergill's objection to bark—Some exceptions pointed out—Women weakened by long suckling—Or habitual and excessive discharges—Bristol water, efficacy of, considered—Change of air—Exercise on horseback, in what cases most efficacious—Exercise by gestation—Sea voyages, how productive of good effects—Dr. Adams's account of the climate of Madeira—Swinging recommended by Dr. Carmichael Smyth. Diet, what most beneficial—Asses' milk—Animal food—Shell fish. Bleeding, under what regulations to be practised. Suspension of the menses in young females not always to be regretted. Repeated vomits recommended by Dr. Simmons—Choice of emetics—Dry vomit given by Dr. Marryat—Dr. Moseley's <i>vitriolic solution</i> preferable. Myrrh an excellent medicine—Inhaling of fixed air, &c. Of the earth bath—The process as conducted by Solano de Luque. Blisters, effects of—Issues, setons, and other drains, useful—Excellent cautions of Dr. Percival on bleeding	172
<i>New remedies in phthisis</i> —Dr. Magennis's remarks on the digitalis purpurea—His various trials of that remedy—Formulæ in which it was exhibited—Numerous cases with their results—Table of seventy-two cases. <i>Pneumatic treatment</i> from the writings of Dr. Beddoes and Mr. Watt—Popular practices favouring this system—Effect of hydrogene gas in the inflammatory stage of Catarrh—Case by Mr. Rolph—Mr. Dean's case of pulmonary abscess in which a reduced atmosphere was inhaled—Two cases of consumption by Dr. Thornton—Desperate case of phthisis by Dr. Beddoes—Other facts and remarks by the same	207
<i>Phthisis from peculiar causes</i> —Happening chiefly to mechanics and manufacturers—Instances described by Dr. Johnstone in the manufacture of needles. Case of pulmonary consumption without hectic, by Dr.	

Fothergill of Bath---Dissection of the body---Reasoning on the appearances	236
PILES---Four species enumerated---Description of---Causes producing them---Deemed by some merely topical---Produced by pressure on the hæmorrhoidal veins---By acrid purges---May acquire a connection with the stomach by sympathy---Said to prevent other diseases. Intentions of cure varying with circumstances---Habitual costiveness to be counteracted---The means of doing this. Prolapsus ani how treated---Topical remedies, hospital formulæ for. When the disease has existed long, how to be treated---Ward's palle---Excessive bleeding to be restrained---Injection recommended by Mr. Cusance---Puls of common pitch useful	231
MENORRHAGIA---Immoderate menstrual flux---Symptoms attending---Causes of---Two indications of cure---How effected. When owing to laxity of the uterine vessels, how treated---Query by Cullen as to the use of emetics in certain circumstances---Exercise by gestation advisable	230
ABORTION---Symptoms threatening it---Some of them fallacious---Seldom dangerous in the five first months of pregnancy---Causes of abortion enumerated and subdivided. Treatment---Women liable to a recurrence of abortion---Methods calculated to prevent this---The prophylactic cure to be chiefly attempted---By what means---When a venereal taint exists, what course should be taken. Rules to be observed in pregnancy	332
MENORRHAGIA LOCHIALIS---An immoderate lochial discharge. What happens in the natural state---Gradual changes in the lochia---Diminution in quantity, and final cessation of. When inordinate, accompanied with inanition---Diet, what to be preferred---As medicine, cardiacs, bark, &c.---When insufficient, how treated	236
FLUOR ALBUS---Described---By what caused---Almost universal with women in Holland---Has been supposed to supply the want of the menses---Distinguished into two kinds---Arising from relaxed solids, general or partial---Ulcerated womb, signs denoting. Treatment---Gelatinous food---Acid fruits---Tunbridge waters---Astringent injections, formulæ for---The cold bath---Terebinthinate and astringent medicines internally. Objections to the topical treatment in some states of the disease---Calomel proper, and vegetable astringents. Rules for distinguishing fluor albus from gonorrhœa virulenta	237
INTERNAL HÆMORRHAGE---Case of by Dr. Binns---How treated---By internal astringents---By vitriolic acid in clysters---Result. Oxide of lead successfully exhibited by the mouth, by Dr. Wall---Preparations of iron recommended	243
CATARRH---From cold---From contagion. Distinguished by different names according to the parts affected---Considered by Cullen of the same nature in all---Symptoms of the incipient state---Progress and termination---To what description of persons dangerous. Causes---Proximate, what---Remote, what---How cold operates in producing catarrh---Fallacy in Dr. Keil's observations---Suppressed perspiration, effects of. Contagious catarrh, phenomena of---Appears with nearly the same symptoms as the common---Its termination by a spontaneous sweat. Prognosis---Catarrh sometimes accompanied with pneumonic inflammation---Phthisis accelerated by it---Chronic catarrh not a consequence of the contagious---Yet producing phthisis. Cure---The same in both species---Cold, and animal food, to be avoided---Diluting drinks taken in bed---To remove the phlogistic diathesis---Bleeding---Emetics---Demulcents. Dr. Fordyce's remarks and plan of cure---Formulæ. Mudge's <i>inhaler</i> , great utility of---How to be employed---Ammoniac and opium, recommendation of, by sir John Pringle	247

INFLUENZA, or Catarrh from contagion —Dr. Hamilton's account of that in 1782—Symptoms—Persons most liable to the contagion. <i>Causes</i> —Actual contact—A true materies morbi—Debility. <i>Cure</i> —Bleeding sometimes prejudicial—Natural crisis of influenza, what—Diaphoretics and diuents principally indicated—Emetics—Opiates—Nitre—Pediluvium Diet, what, most suitable. Dr. Hamilton's opinion of the exhibition of cinchona in the contagious catarrh	257
DYSENTERY —Description of—In what seasons most prevalent—Symptoms, progress, and duration of Remote <i>causes</i> of it—Dysentery always contagious—Suppositions concerning its nature—Proximate cause, what. <i>Cure</i> —Objects to be kept in view—Purging with neutral salts	268
Rhubarb disapproved by Cullen—Vomiting—Clysters---Opiates. Stimulants externally applied. Treatment laid down by Fordyce—Diet to be observed—Astringents, at what period proper---Formulæ. Signs of danger in dysentery---When removed the bark recommended	271
<i>Treatment in hot climates</i> ---Dr. Moseley's excellent observations on the nature of Dysentery in the West Indies---Considers it a fever of the intestines when epidemical---Opiates and astringents, why pernicious---Sudorifics to be relied on for the cure. The disease most formidable in camps and garrisons---Account of it among the troops in Jamaica in 1780. Curative indications specified---Bleeding---Emetics---Sudorifics, when and how to be employed to occasion <i>revulsion</i> . How to proceed in case the disease continues obstinate. Remarkable instances of success attending the sudorific plan of treatment in Jamaica---A case where it was employed in London---Situations in which the <i>variolic solution</i> is eminently useful	276
Effects of nitrous acid and opium in dysentery, by Mr. Hope---Dysentery, when complicated with an intermittent, how to be treated---When complicated with hepatitis	287
APOPLEXY ---Sanguineous, description of---Causes producing. Prognosis---Often fatal on the first attack---Signs of a favourable event. Cure how to be attempted---Bleeding from the head---Blisters---Drastic purges---An erect posture	288
<i>Serous apoplexy</i> ---Description of---Causes---Prognosis. Treatment recommended by Drs. Saunders and Smith---Formulæ---Requires remedies different from the sanguineous. A species of apoplexy denominated the spasmodic---How to be treated	290
HYDROCEPHALUS ---Dropy of the brain. History and description---Happens most frequently to lively children---Divided by Dr. Whytt into three stages---Symptoms and progress---State of the pulse---Of the eyes. Many of the symptoms resembling worms and dentition---Appearances of the urine equivocal. <i>Causes</i> of internal hydrocephalus---Prognosis. <i>Treatment</i> ---None supposed to avail till of late years---Mercury employed by Drs. Dobson, Percival, and some others---Three cases fully related by those gentlemen—One by Mr. Mackie---Final result not very promising. Mercury does not readily affect the salivary glands in hydrocephalus. Other cases by Dr. Garnett, Mr. White, &c.	293
APOPLEXY, from Atrabilis ---From external violence---From poisons. The state induced by poisons different from true apoplexy---Effects of fixed air described by Dr. Percival---Various instances adduced---Dr. Mead's remedies against opium---Not to be relied on, and why---Laurel water, Dr. Nichols's experiment with---Said by Mead to be counteracted by volatiles. Cold, the fatal effects of---Mortifications produced by it. Cases of poison from narcotic vegetables by Drs. Crowder, Watson, and Houlston---From ardent spirits, by the latter	
---Mode of treatment	

APOPLEXY from passions of the mind---Both the sanguineous and serous produced by this cause---Treatment	328
CATALEPSY ---Doubted by Cullen to exist---Thought to be counterfeited---Symptoms described by authors---An instance related---Case of partial catalepsy---Case by monsieur Gaultier---Formulæ of Dr. Hugh Smith	ibid.
APOPLEXY from suffocation---Takes place in persons hanged---or drowned. Apoplexy a symptom in other diseases	333
PALSY ---Three species enumerated---Description of---Supervene upon the different species of <i>Coma</i> , especially apoplexy---Sometimes a crisis of other diseases---Persons subject to it---Caused by injuries of large nerves. Seldom cured except slight---Signs of recovery what---Cured by fever. <i>Treatment</i> ---Medicine of little efficacy in general---Natural hot baths useful---Frications---Stimulants---Mercury. Curative plans of Drs. Saunders and Smith---Formulæ. Palsy from poisons---Chiefly from lead. Tremor, of what diseases symptomatic	338
SYNCOPE ---Two species of---Description of the true---Common causes of---A symptom in other diseases. <i>Prognosis. Cure</i> ---When arising from passion---From fear---From profuse discharges---Violent purging---How to be attempted. Syncope frequent in hysterical constitutions	339
SYNCOPE ANGINOSA , so called by Dr. Parry---Heretofore named <i>angina pectoris</i> ---Account of by Dr. Heberden---Seat of the disease---Observations of Drs. Fornerigill, Wall, Haygarth, and Percival---Purely spasmodic in its nature---Appearances on dissection. In the <i>treatment</i> , bleeding and vomits useless---More to be done by a well-regulated diet---Antimonials and foetid gums of service in one instance. Issues recommended by Dr. Smith of Ireland---An instance of their good effects by Dr. Macbride---Additional observations by the latter. Dr. Parry's account of syncope anginosa---His account of its symptoms and most obvious causes when unmixed---In no stage accompanied with inflammatory fever. Dr. Parry's objections to the accounts of Drs. Macbride and Smith---His remarks on the cases given to the public. Dr. Parry's nosological description of the disease	342
DYSPEPSIA ---An exact definition of, not easy---Symptoms---Hætic, and signs of irritability occur---Sometimes salivation---Terminating in dropsy. <i>Causes</i> ---Whatever debilitates the system---Habitual use of opium---Spirit---Tobacco, &c.---A sedentary life. When incipient, how treated---Obviating urgent symptoms---Tonics preceded by vomits---Antiseptics. Prevailing acidity in the stomach, how counteracted---A case by Dr. Watfon---Tonics employed	353
HYPOCHONDRIASIS ---Only one idiopathic species admitted by Cullen---Distinct from hysteria. Symptoms described---Prognosis---Cure. The treatment in detail by Dr. Smith---Formulæ---Voyages to warm climates recommended	358
CHLOROSIS ---At what period affecting females---Symptoms and progress---Caused by atony of the muscular fibres of the alimentary canal---Tedious but seldom fatal. Remedies the same as in dyspepsia and hypochondriasis---Aloetics of service---Cold bath. When arising from plethora---How treated---Formulæ	361
TETANUS ---Remarks on by Dr. Lionel Chalmers---Emprosthotonos, opisthotonos, and tetanus, distinguishing marks of. Three stadia of the disease circumstantially described. Does not admit of a crisis or natural cure---Two classes of remedies to be employed---Great weakness after recovery. Hillary's account of the disease in hot climates, where it occurs frequently---Attacks children---Treatment recommended. A child, how cured, by Dr. Chalmers. Accounts of, by Dr. Donald	

Monro and Dr. Carter---Cold water and tonics, trials of, related.	
Wine recommended by Dr. Rush---Successfully used at the Liverpool infirmary---An opposite method practised in Spain	363
LOCKED JAW---In children under two months---Rather to be accounted a symptom of tetanus. When from wounds or fractures, belonging to surgery---Trismus only an incipient tetanus	376
CONVULSIONS---When local attended with paralysis---When permanent called spasm or cramp---General, in what differing from epilepsy. Causes---Not very evident sometimes---In what persons most frequently occurring---Often symptomatic---Less dangerous in young persons---May cease on menstruation in girls---Incurable in older subjects. <i>Treatment</i> as that in epilepsy---Immersion in warm water good for infants	377
ST. VITUS'S DANCE---Description---Causes---Prognosis. <i>Treatment</i> as in epilepsy---Described by Drs. Smith and Saunders---Formulæ	378
RAPHANIA---Described by Sauvages---Frequently epidemic in Suabia---How said to be produced---Cure	379
EPILEPSY---Three species of---Described---Appearances on dissection---Attacks both strong and weak---Sometimes periodical---Methods of cure generally proposed---Plan of treatment by Dr. Saunders---By Dr. Hugh Smith---Cardamine---Flowers of zinc tried by Dr. Hart---Trials of them by Mr. B. Bell, and Drs. Percival, Haygarth, Home, and White. Result of trials of general remedies by Dr. Home---Cuprum ammoniacum recommended---Accidental cure by an over-dose	380
PALPITATION of the heart. Sometimes heard at a distance from the patient---Occasioned by mal-formation---Wounds---Abscesses---Polypi---Ossification---Plethora---Nervous affections. How treated	388
ASTHMA---Spontaneous---Exanthematic---Plethoric. Nature and phenomena of---Accompanied with dyspepsy---State of the pulse---Paroxysms induced by heat. <i>Prognosis</i> ---Asthma more curable in the young---Occasions phthisis---May terminate in hydrothorax or aneurism---Bad symptoms described. Asthma a chronic disease---Often of very long continuance---Distinctions of---Warning of the attack---Duration of the paroxysm. <i>Treatment</i> ---Bleeding and emetics, when proper---Coffee abates the paroxysm---Expectoration, means of promoting---Formulæ from the hospitals, &c.---Balsamic pill of Fuller---Mustard-whey---Madder---Mercury of service according to circumstances. Spasmodic asthma, how relieved---Changes of weather sensibly felt---Diet, suitable---When depending on some other disease---How treated	389
DYSPNOEA---Habitual difficulty of breathing---The catarrhal---The dry---From changes of weather---From pulmonary concretions---From defluxion---From corpulency. Other species connected with phthisis	394
HOOPING-COUGH---Description and symptoms of. Infectious and often epidemic---Attacks children most commonly---Occurs once only in the same subject---Predisposing causes, what. <i>Prognosis</i> ---Hooping-cough not very fatal---In what subjects most dangerous---May produce abortion in pregnant women---Induces other diseases---Spontaneous vomiting favourable. <i>Treatment</i> ---To be addressed to the symptoms, and to forwarding the natural cure---Vomits---Bleeding---Pectorals---Hemlock recommended by Dr. Butler. Change of air, the advantages of---Garlick and hog's lard to the feet, by Dr. Buchan---Opiates in what cases proper. Cantharides internally---Antimonial, formulæ for	396
WATER-BRASH, a disease frequent in Scotland---Spasmodic---Attacks females---Symptoms of it. Caused by cold and passions of the mind. Cure by opiates and antispasmodics---Vitriolic æther---Volatile alkali---	

Nux vomica. Other painful affections of the stomach described—Gastrodynia—Cordialgia—Spasmodic affections how removed—Formulae	400
COLIC —From spasm, how distinguished—By what symptoms accompanied—Iliac passion, what. <i>Causes</i> —Acrid indigestible aliment—Acrimony of the bile—Introsusception sometimes occasioned—Peyerus's experiment on a frog. Iliac passion may arise from strangulation in hernia—An extraordinary case related. Parahognomic signs described by Dr. Smith. Never void of danger. The cure, on what depending—Warm bath recommended by Dr. Porter—Mild cathartics of service—Formulae of Drs. Saunders and Smith. Medicines which act mechanically—Neither effectual nor safe—Projection of cold water on the body—Clysters—Solution of alafœtida—Tobacco smoke injected—How these operate	402
Colic from lead —By what other names known—Description and symptoms of—The brain sometimes affected—Paralytic effects produced. Balm of Peru prescribed by Sydenham—American specific by Dr. Lio (l) Chalmers—How administered—Alum directed by Dr. Percival—Castor oil an excellent evacuant	407
Colic from poisonous matter , supposed remedies for—Alkali—Milk—Hepar sulphuris. Fungi—Muscles—Peculiar effects from. Vomiting the only cure	410
Colic of new-born infants —Removed by gentle évacuants. From a callosity of the colon—From calculi—Severally considered	411
CHOLERA —The spontaneous—The accidental—Described by Dr. Fornyce—Persons most liable to it—Produced by cold or putrid vapour chiefly. <i>Treatment</i> —By evacuating the bile—Clysters—Opiates—A decoction of toasted oat-bread recommended by Dr. Douglas to counteract the vomiting—Infusion of mint for the same purpose—Means of preventing opiates from being rejected by the stomach. The cure circumstantially described by Dr. Fordyce—By Dr. Smith—Formulae	412
DIARRHŒA —The feculent—The bilious—The mucous, severally treated on. Persons liable to the latter—Methods employed for the cure. Some kinds of diarrhœa contagious—Treatment by Sir John Pringle—Simarouba recommended by Dr. Huck—Formulae and plan of cure by Dr. Hugh Smith—His treatment of chronic diarrhœa—Formulae from Dr. Temple	414
COELIAC PASSION —A species of Diarrhœa—How characterised by Sauvages, Cullen, and Vogel—The cure how to be attempted	420
LIENTERY —In what differing from coeliac passion—Hunger a symptom—Occurs in early life—How cured	ibid.
HEPATIC FLUX —Described by Sauvages—Described as coeliac passion by Trallianus—Seldom a primary disease—Fatal when succeeding hepatitis	421
DIABETES —With sweet urine—With insipid urine—The symptoms described—Immoderate thirst—More fluid evacuated by urine than is drank—Experiments by Dr. Dobson. <i>Causes</i> very obscure and uncertain—Retrograde motion of the absorbents not concerned in supplying the urine—Appearances on dissection. <i>Cure</i> , how attempted—By astringent and strengthening remedies—Treatment adopted by Dr. Dobson—With what results—By Dr. Home—Effect of septics. Instances of cure by Drs. Brisbane and McCormick—Important suggestion by Dr. Rollo, as to total abstinence from vegetable food, and the exhibition of alkalis—A case successfully treated by Dr. Redfearn. Dr. Lubbock's account of diabetes, and its treatment—Remarkable case—Tables of the quantity of urine passed by three patients—Remedies prescribed—Observations to a received opinion—And to Dr. Rutherford's theory—Experiments relative to the increased	

portion of extractive matter in diabetic urine—Conclusions affecting Dr. Rollo's practice. Case of diabetes treated with nitric acid, by M. Chavasse—Its use in other instances referred to	421
HYSTERIA —Symptoms detailed—Liable to great variation—Alternates with <i>gibbus hystericus</i> and <i>clavus hystericus</i> —From what <i>causes</i> arising—Not a formidable disease—How the <i>care</i> is to be attempted—Indications by Dr. Saunders	439
HYDROPHOBIA —Objections to Cullen's nomenclature—Rabies preferable as a generic term. The disease and its progress minutely described. Its effects on the mind—Extreme sensibility and irritability of the nervous system—The barking noise made by the patient accounted for—Varieties in the symptoms—Delirium—Involuntary erections, &c. Five cases by Dr. Wolf—Varieties stated by Mr. Vaughan. Hydrophobia a symptom peculiar to the human race—Exceptions even in them—Dr. James's opinion—His cautions with regard to dog-kennels	442
<i>Causes</i> little understood—What, in quadrupeds—Many vague ones assigned—Probably specific contagion—Communicated in the saliva—Dr. Vaughan's inoculation of a dog—Nothing known from dissections—The doctor's opinions of the cause of particular symptoms—The bite of a mad animal not uniformly fatal, and why	446
<i>Treatment</i> —Referred to surgery—Effects of mercury related by Dr. Houlston—Cases cited—Cases by M. Blaise—Dr. Monro's opinion as to the time excision may be safely delayed	448
<i>Spontaneous hydrophobia</i> often mistaken for canine madness—Induced by an inflammation of the stomach—How in that case treated. Instances cited by Drs. Raymond and Nugent, and by Mr. Wrightson—How treated by the latter	450
IDIOTISM	451
MANIA —Melancholy and raving. False perception deemed by Dr. Battie the distinguishing characteristic—Different kinds liable to change into each other. Mad people less liable than others to infectious diseases—The latter sometimes remove mania. Extraordinary circumstances occurring in maniacal patients—Their resistance of hunger, cold, and sleep, remarkable—Furnishes a test against imposture. <i>Treatment</i> , not to be attempted on any general principles—Hereditary madness incurable, and that which continues more than a year—Recovery on what probably depending. Slight derangement a consequence of other diseases—Evacuations improper in these instances—Important however in common cases—Recommended by Monro—By what medicines to be effected. Hot bath of service—Hoffman's opinion of it—Bleeding, nitrous medicines, camphor and vinegar, spoken of by Dr. Locker—Narcotics employed by Dr. Willis—Indications of cure by Dr. Saunders—Stramonium recommended by Storck. Strait waistcoat described—Uses of it—Lunatics cowardly and easily overawed. Extremes of joy or despondency more difficult to manage—The excitement of contrary ideas most material—Blistering the head disapproved by Mead—Issues recommended—Opium in what doses proper. Diet, what, proper for maniacs	452
Admonitory hints and reflections on mania by Dr. Johnstone—Use of henbane in maniacal affections—Case by Dr. Fothergill—Henbane useful in puerperal mania—Circumstance attending its exhibition— <i>Pure boredatory</i> mania deemed incurable—Case of it by Dr. Crowther—Appearances on dissection—Cautions as to the means of coercion—Dangerous effects of fanatical preaching on weak minds	456
INCUBUS , or night-mare—Symptoms of—Persons most subject to—The posture in sleep a cause of—Diet and medicine most proper. Somnambulism modification of incubus—Cullen's distinctions	461

TABES —Wasting of the body—By what occasioned—Indication of cure—Treated under other heads	462
CONSUMPTION , nervous, described—Said by Cullen to be attended with some degree of fever—Sometimes occurs spontaneously—Produced by passions of the mind—Spirituuous liquors—Seminal evacuations to excess—Tabes dorsalis. Difficult of cure—Terminates in dropsy—Nutritious aliment required—Tonic and strengthening medicines should be administered	ibid.
CORPULENCY —By what occasioned—Effects of fat accumulated in the omentum. On what principles the cure is to be attempted—Soap recommended by Dr. Fleming—Squills by Lieutard. Rules of conduct for corpulent people—A vegetable diet enjoined by Dr. Fothergill—Effects of it on Dr. Cheyne—Cautions with regard to the use of acids	463
EMPHYSEMA —By what occasioned—Air in the cavity of the thorax, how to be expelled—Power of the absorbents in the removal of it—Cured by the operation	465
TYMPANY —Two kinds, description of—From intestinal flatus most common—Happens frequently after abortion—Hemorrhoids—Febrile diseases improperly treated. Generally fatal—Degenerates into ascites—Hætic a fatal sign. By what means prevented—Cure, how to be attempted—A remarkable case by Dr. Monro, senior—Circumstances observed in the course of it—Terminates favourably	466
PHYSOMETRA , windy swelling of the uterus—A rare disease, and seldom cured—To be treated as tympany	468
ANASARCA —Symptoms and progress of—Intentions of cure nearly as in ascites—Medical treatment proposed by Dr. Temple—Sweating how to be induced—Diseases of the viscera, separate treatment of—Atonic state of the system, how treated—Formulae. Scarifying the legs, cautions respecting—Dr. Fothergill's directions respecting this	ibid.
HYDROCEPHALUS —Treated of elsewhere—Extraordinary case of related—Most properly divided into acute and chronic—Evacuation of the water by puncture usually fatal	472
SPINA BIFIDA —In what consisting—Usually treated by the surgeon—Requiring early attention	473
HYDROTHORAX —In its causes resembling ascites—How distinguished—The diagnostics uncertain—A dangerous disease. Treatment—By blisters—Digitalis, how administered—Formulae by Dr. Saunders	ibid.
ASCITES —Three different forms of, described—Symptoms of the incipient state—Termination. Caused by irregular or defective action of the absorbents—To whom commonly happening—May arise from debility—From hemorrhage—From obstruction of the blood-vessels by pressure—From scirrhus of the liver—Experiment of Lower on a dog—Tenuity of the humours, a supposed cause of dropsy—Dieta aquea of the Italians—Water injected into cavities, absorbed—Experiment to prove this by Dr. Musgrave. Remote causes of ascites, what—Prognosis	475
<i>Treatment directed by two indications—Preliminary circumstances considered—Purging recommended by Sydenham—Diuretics of great importance—No medicine uniformly diuretic—Mr. Bacher's preparation of black hellebore—His pills—Their effects described—De Horne's trial of them in eight cases. Abstinence from drink—Condemned by Dr. Milman—His practice in the Middlesex hospital detailed—Squills—Sal diureticus—Crystals of tartar—Seneka—Mercury. Lactuca viosa recommended by Storck—Tobacco by Dr. Fowler. Treatment required after tapping—Bark—Exercise—Local frictions—Evacuants and tonics alternately. Dr. Saunders's method</i>	

TABLE OF CONTENTS.

7V

PAGE

of cure—Formulae. New practice in dropsy—Dr. Magennis on the usual remedies—His recommendation of powerful tonics—Their effects illustrated in three cases—Necessary discriminations with regard to this plan of treatment	479
Dropsy of the uterus—Of the scrotum—Swelling of the belly from internal enlargement	490
RICKETS—A disease peculiar to infancy—For that reason referred to Midwifery	491
SCROFULA—Symptoms and progress of. Causes producing it—Debility of the lymphatic system a principal one—Seldom a fatal disease except when affecting the viscera. Principles on which the cure should be attempted—Should be varied according to the part affected—Cold bathing—Importance of the bark joined with aromatics—Method of taking it with the least disgust. Numerous formulae employed in the London hospitals—Quicksilver—Natron—Chalybeates—Mezereon—Madder—Antimony. Sea-water recommended by Dr. Russel—Cicuta by Dr. Fothergill—Rules for its exhibition	491
LUES VENEREA—Treated of under surgery	497
SCURVY—Indications of scorbutic diathesis—Symptoms of scurvy—Wandering pains very common—State of the bowels very uncertain—Profuse bleedings, &c. Causes producing scurvy—Too indiscriminately attributed to curaneous affections—Dr. Lind's account of dissections—Dropical symptoms sometimes occur—Arguments respecting a putrescency of the fluids in scurvy—Cullen's opinion of the aerial principle in food. Scurvy, when epidemic, on what depending—Drs. Milman and Trotter, their opinions—The abstraction of oxygene from the blood supposed to be the cause	498
Scurvy how to be prevented—By an attention to the non-naturals—Correcting the coldness and moisture of the atmosphere—Cheerfulness—Cleanliness—Fermenting drinks—Sugar—Vegetables. How the early signs of scurvy are to be counteracted—By diuretic remedies largely taken—The recent flesh of herbivorous animals—Milk—Vegetable acids—Dr. Lind's mode of administering the latter. Signs of recovery, what—Antiseptic gargles—Swelled limbs, how treated—Large evacuations pernicious—Infusion of malt employed by Dr. Macbride—Account of experiments made with it—Directions for preparing and administering it at sea—This and four-knot employed by Captain Cook—Portable soup—Spruce beer—Observations on their use. Land scurvy an imaginary malady	504
ELEPHANTIASIS—Treated of under surgery	510
LEPROSY—Lepra Græcorum—Referred to surgery	ibid.
YAWS—Framboesia—Spoken of under surgery	ibid.
PLICA POLONICA—Where met with—Nature of—Not curable—Consequences of checking the discharge—Treatment proposed by Sennertus—Decoction of club-moss employed topically, a supposed specific	ibid.
JAUNDICE—Incipient signs of—How it affects the secretions—The milk in women not usually discoloured—Fatal termination of not uncommon. Causes of jaundice—Disputes of authors respecting the retention of bile—Pressure of any kind on the biliary ducts produces jaundice—Produced also by spasm—Biliary concretions—Bile absorbed in some fevers not to be considered jaundice—Women most liable to jaundice, especially when pregnant. Prognosis uncertain	511
Cure of jaundice, on what principles to be attended—Two indications—No solvent known for biliary calculi—Difficulties in treating diseased liver urged by Boerhaave—Jaundice in cattle—Van Swieten's extravagant account of a man cured by eating grass—Vomits and exercise promote the expulsion of biliary concretion—Bleeding sometimes to be pre-	

<p> mised---Opates sometimes necessary---Cautions respecting the use of emetics---What kind of exercise should be preferred---Warm bath a ma- terial remedy---Formulæ of Drs. Saunders and Smith. Incurable cases, how palliated---Means when a cure is accomplished to prevent a relapse---Mercury exhibited in the West Indies by Dr. Monro--- Jaundice in infants how named---In what differing from the disease in common---Easy remedy for </p>	514
<p> CATARACT---The nature of---Sometimes curable by the means used in <i>gutta serena</i>---Electricity, how to be employed---Couching or extraction generally necessary---Referred to surgery </p>	517
<p> GUTTA SERENA---What---May be produced by various affections--- When from a wasting of the optic nerve incurable---When from com- pression, how to be treated---Bleeding---Cupping and scarifying--- Mercurial purges, Mr. Ware's sternutatory---Setons, issues, or blisters ---Salivation. Dr. Porterfield's observations---Remarkable case of amaurosis related by Mr. Boyle---Treated of under surgery </p>	518
<p> DEPRAVED VISION---Five species described by Cullen---<i>Dysopia prox- ima</i>---<i>Distitorum</i>---<i>Laterals</i>---Severally described <i>Kurisha slepota</i>, a species of <i>Dysopia</i>, common in Russia---Account of it by Dr. Guthrie ---Blindness occurs after sun-set---Supposed to be the <i>dysopia tene- brarum</i> of Cullen---Sum of Dr. Guthrie's enquiries on the subject---A plant named <i>cinet</i> said to be a specific---Manner in which it is taken by the natives---Dr. Guthrie's conclusion---<i>Nyctalopia</i> supposed by Dr. Blanc similar to the <i>kurisha slepota</i>---A symptom of scurvy---Circum- stances in which they differ---Scurvy rare amongst the Russians. Ex- traordinary defect in vision described to Dr. Priestley---Peculiar circum- stances attending this inaccuracy---Confined to the colour of objects merely </p>	519
<p> IMAGINARY VISION---Arising from delirium---Sometimes otherwise--- Black spots, or sparks of fire, forerunners of apoplexy---Sometimes con- tinuing through life without any ill consequence---Rarely to be cured </p>	525
<p> DEAFNESS---Treated of under surgery </p>	526
<p> DEFECT OF SMELLING---Arising from two sources---Snuff pernicious ---Treatment when too much moisture prevails---When too little--- Sternutatory---The vapour of vinegar---Anointing the nostrils. Treat- ment when an ulcer exists---When arising from a deficiency of the nervous influence </p>	ibid.
<p> DEFECT OF TASTING---From what causes arising---Methods to be practised for the removal of it---Insensibility of the nerves how counter- acted </p>	527
<p> DEFECT OF FEELING---How this sense may be impaired---How treated when arising from an affection of the cutaneous nerves---Remedies internal and topical </p>	528
<p> CANINE APPETITE---To what owing---May arise from morbid prop- erties in the gastric juices---How treated by medicine---By regimen--- When from a disease of the pylorus, incurable---Instance by Mr. Wastell---Methods practised for the patient's recovery---Wonderful instance of bulimia in a French prisoner at Liverpool---Circumstances related by Dr. Johnson to Dr. Blanc on the report of Dr. Cochrane--- Usual quantities of substances eaten---Specific quantity in an experi- ment made before witnesses---Enquiries as to his exertions---Heat of body---Hereditary claims to a good appetite---Urine---Muscular strength---Dullness or vivacity---Time of life when the disposition took place---Venereal appetite---Inclination to devour animals alive---Re- flection on this singular case. Dr. Hagstrom's case of chronic dys- phagia from a ravenous appetite---Quantity eaten---Dissection of the body---State of the œsophagus </p>	528

LONGING, or <i>false appetite</i> —Symptomatic of other diseases—Should be indulged in certain cases	537
EXCESSIVE THIRST—Almost always symptomatic—Removed by diluents—How remedied when the latter are inadmissible—Cases by Dr. Dyce and Mr. Peaal	537
SATYRIASIS—A violent desire of venery—Description of as a disease—Often a modification of insanity—How to be counteracted	539
FUROR UTERINUS—Either a species of madness, or a high degree of hysteria—Its immediate cause described—Symptoms. Cure to be attempted early—By bleeding—Purgatives—Opiates— <i>Asafœtida</i> —Sedative injections—Matrimony	540
NOSTALGIA—A vehement desire of visiting one's country—A species of melancholy—Most common to the Swiss soldiers	541
WANT OF APPETITE and THIRST—Anorexia and <i>adipsia</i> —Symptomatic of other diseases	ibid.
IMPOTENCE—Improperly deemed similar to barrenness in women—The nature of it defined	542
LOSS OF VOICE—From what causes proceeding—Sometimes a forerunner of apoplexy—Often incurable—General intentions of cure, what—Particular causes how removed	ibid.
DUMBNESS—A natural consequence of original deafness—The methods taken to instruct the deaf and dumb	544
PARAPHONIA—Change in the sound of the voice—May happen from various causes—By what means relieved	ibid.
PSELLISMUS—Defect in pronunciation—Different kinds described—Often arises from bad habits—Sometimes from mal-formation of the tongue	545
SQUINTING—Referred to surgery	ibid.
CONTRACTIONS of the limbs—Generally the consequence of some other disease—Bath waters—Electricity—Topical relaxants of service	ibid.
BLOODY FLUX—The putrid contagious dysentery—Treated of under other heads	546
EPIDROSIS—Excessive sweating—Generally symptomatic—Sometimes a primary disease—Remedies for it	547
EPIPHORA—Described by Sauvages—At what period of life most apt to occur—Treatment recommended by authors—Referred to surgery	ibid.
SALIVATION—Rarely a primary disease—Extraordinary instance of, from mechanical irritation of the parotid gland—Case by sir George Baker	ibid.
INCONTINENCE OF URINE—Children most liable to—Many ridiculous remedies in use for—Tonics not always effectual—Blisters an essential remedy—Cure by hepatised ammonia—Case	549
GONORRHOEA—Described—Treatment referred to surgery	550
COSTIVENESS—By what occasioned—Effects of—May be counteracted by diet—Dr. Arbuthnot's advice respecting—Medicines calculated to remove—Interesting case of long-continued costiveness ending fatally by Dr. Baillie	553
SUPPRESSION OF URINE—Divided into four species—That from an affection of the <i>kidneys</i> happens rarely—A case of it by Dr. Home—Onions applied to the navel effectual in another case. Interesting case of <i>Ichuria vesicalis paralytica</i> (Sauv.), with remarks by Mr. Senter. <i>Ichuria uretica</i> —Also a rare disease, except from mechanical obstruction of gravel or calculi—Signs of a fatal termination—Indications of cure—Means recommended by Hoffman, Fluxham, and Saunders. Other species of <i>ischuria</i> referred to surgery	556
STRANGURY—Dysuria—From what causes arising— <i>Cantharides</i> —Spasm of the sphincter vesicae—Pressure of the gravid uterus	563

STONE IN THE BLADDER--Signs of. <i>Causes</i> , not easy to assign--Supposed to have been authentic with the gout--How the calculus is probably formed--M. Berton's opinion--Produced by drinking hard water, according to Hippocrates--Dr. Percival's arguments and experiments in favour of this. Effects produced by the stone in particular circumstances--Christick's solvent detected--Decoction of raw coffee recommended by Dr. Macbride--Aqua mephitica alkalina by Dr. Falconer--Used with by De Haen--Mode of administering the latter by Dr. Saunders. Practice in Arabi. Petrea of injecting the bladder--Arguments against it. Palliatives what, to be had recourse to--Lithotomy, caution respecting	568
DYSERMATISMUS--Difficult emission of the semen--From what causes proceeding--Treatment in particular cases	575
SUPPRESSION OF THE MENSES--How connected with chlorosis--Result of Dr. Home's trial of different emmenagogues--Effect of compression of the crural artery--Venesection--Savine--Madder-root--Excellent qualities of the latter	576
HEAD-ACH--Rarely an original disease--When so, under what circumstances--When from ossification of the <i>falks</i> , incurable--When from congestion how relieved--When from nervous irritation, how to be treated--Malic acid recommended by Dr. Dwight--Pulverised charcoal useful--Opium--Carbonic acid gas--Strong infusion of coffee--Diagnostics by which the <i>rheumatic</i> head-ach is to be known. Case of head-ach from peculiar causes by Mr. Henry--Queries as to its intricate parts.	577
<i>Cephalalgia idiopathica</i> --Distinctions of, by Dr. Lettsom--Causes of, enumerated--Case of painful affection of the head, by the same--Description of the appearances after death by Mr. Ware--Query as to the remote cause of the disease. Cases of head-ach from organic affection of the brain--From aneurisms of the carotid arteries, by Dr. Blane--From a tumor found in the situation of the pineal gland--Appearances on dissection in both cases--Dr. Blane's reflections on the latter--Head-ach from an unusual thickening and hardness of the skull--Seat of ordinary head-ach in the integuments--Even when accompanied by indigestion--Chronic head-ach sometimes caused by thickening of the meninges--Difficulties attending this subject--Symptoms attending diseases of the brain--Conclusion	577
HEART-BURN-- <i>Cardialgia</i> --Description and diagnostics of--Ranked by Cullen with dyspepsia--Has few symptoms in common with water-brash. <i>Causes</i> --Fiatus, acid--Acrimonious humours--Rather supposed, by Dr. Hunter, to arise from the <i>vapour</i> of acrid humours--Reasons for this conjecture--Produced by corrosive poisons--When succeeding fever with petechiæ a fatal sign. <i>Cure</i> --When symptomatic--When original. Diet--Medicine--How adapted to existing circumstances. Treatment in hysteric or hypochondriac <i>cardialgia</i> --When vomiting attends a bilious <i>cardialgia</i> --When arising from other causes--Alkaline acrimony--Salted meat--High-seasoned food--Spirituous liquors--Flatulence--Violent vomits or purges, or caustic poisons--Gouty matter in the stomach--Difference of opinion as to the seat of the disease. Case of <i>cardialgia</i> , and scirrhus pylorus from mechanical obstruction by Dr. Harrison of Philadelphia--Appearances on dissection--Impudence and danger of swallowing fruit-stones--The remedies in dyspepsia and pyrosis sometimes proper in <i>cardialgia</i>	595
MELÆNA--The <i>morbus niger</i> of Hippocrates--Particulars of--Causes--Cure--Seldom idiopathic or to be considered as active hæmorrhagy--If arising from plethora, how treated--Means of evacuating the blood from the intestines--Formulae by Dr. Temple--Clysters with vitriol	

acid proper---Cold bathing---Chalybeates---Diet, what suitable to the case. If arising from suppression of customary evacuations, how treated---From visceral obstructions---From scurvy or putrid diseases. Dr. Home's account of the treatment---Emetics hurtful---Recommends vitriolic acid to be given in mucilage of gum-arabic. Case of melæna by Mr. Key---Ends fatally---Appearances on dissection---A calculus found in the bladder	599
POISONS---How to be counteracted---What kinds act on the stomach---Mineral, decomposed by alkali---Three decisive cases by Dr. Houlston---One by Dr. Evans---Popular admonition as to the exhibition of alkaline solutions---Perhaps the most effectual where arsenic has been swallowed---Instance of poison from fly-water---Case of a young woman poisoned with arsenic---Symptoms described by Mr. Ogle---Appearances on dissection. Account of other substances used as poison---Cantharides---Substances taken to procure abortion. Poisonous qualities of certain kinds of fish---Cullen's account of these---Detailed and curious account by Dr. Thomas---To what causes the deleterious qualities of fish are to be imputed---Conjectures on this subject---Account of the barracuta---Yellow-bill sprat---Cavallee---Perca marina---King-fish---Smooth bottle-fish---Sea-lobster---Facts evincing their poisonous qualities. <i>Symptoms</i> of fish-poison---When not immediately fatal may be the cause of chronic diseases---Immediate and active means to be resorted to in the first instance---Effects of fish-poison resemble cholera---Importance of distinguishing them. <i>Care</i> ---Evacuants to expel the poison---Secondary treatment addressed to remaining symptoms---Oil of the bignonia reputed beneficial. Methods of distinguishing edible fish from poisonous---Some of Du Tertre's injunctions erroneous---Poison derived from the food by fish, and circulated in their juices---Perhaps rendered more deleterious to the human stomach by the rapid putrescency of the ingesta in hot climates---Capsicum recommended by Dr. Clarke of Dominica	602
FACE-ACH---The <i>dolor faciei</i> of Fothergill---References to cases of this obscure disease---Known before Fothergill's time at Paris---How to be called analogically--- <i>Symptoms</i> and seat of the disease---More frequently attacks females---And persons of very opposite constitutions---Erroneously called <i>trismus dolorificus</i> , by Pugol and Sauvages---Symptoms in particular cases under proof. Siebold, Dr. Kahn, and Dr. Lentin. The various situations of the pain enumerated---In some single part of the face---In half of it---In both cheeks---In both sides of the lower jaw---In the whole head and face---In one foot. <i>Causes</i> ---Predisponent, enumerated---Internal, described---Called by some the cancerous rheumatism---Arguments against the propriety of this---Supposed to arise from arthritic matter---From exanthematous acrimony---From serophulous acrimony---Catarrhus acrimony---Rheumatic matter---Venereal poison---Preceding serous profluvia suppressed. Four cases related	616

APPENDIX.

On the Use of factitious Airs in MEDICINE.

	PAGE
THE pneumatic tréatment, in what cases applicable---Description of a portable pneumatic apparatus invented by Mr. Watt---Method of preparing oxygene air by means of it---Hydro-carbonate air---Caution against the application of too much heat when a common coal fire is used	627
<i>Method of using the apparatus</i> ---In procuring hydro-carbonate air---Ferric hydrogene---Carbonic acid gas---Zincic or ferric-hydrogene---Oxygene air. Method of transferring factitious airs from the air-holders into bags---Inhalation of the airs how performed---Their doses and proportions where the system is not irritable---In other cases---Under what circumstances large doses are dispensed with---Effects of hydro-carbonate---State of the pulse under its use. Instructions as to the quantities of gas produced by apparatus of different sizes---The largest necessary for hospitals---Air-holders, their dimensions---Management of the oxygene fire-tubes. Fourcroy's sentiments on the application of pneumatic chemistry to medicine---His <i>profession de foi</i> ---Sum of his opinions	639

THE
PRACTICE
OF
M E D I C I N E.

GENUS XXV. ARTHROPUOSIS.

Lumbago psoadica, *Sauv.* sp. 6. *Fordyce*, Practice of Physic, P. II. p. 70.

Lumbago apostematosa, *Sauv.* sp. 12.

Lumbago ab arthrocace, *Sauv.* sp. 17.

Ischias ex abscessu, *Sauv.* sp. 6.

Morbus coxarius, *De Haen*, Rat. Med. Vol. I. c. xxxii.

THIS is a disease very much resembling the rheumatism; but differing both from it and the gout, in that it occasions suppurations, which they seldom or never do. It frequently, according to Sauvages, attacks the psoas muscle; and occasions excruciating pains, and then a collection of matter named *lumbar abscess*.

Dr. Ferriar, of Manchester, recommends the following liniment, which he says affords great relief in this disease, at least while in the state of a rheumatic affection:

(No. 159.) ℞ Camphoræ ʒij.

Ung. resinæ flavæ ʒj.

Saponis nigr. ʒss.

Misce fiat Linimentum.

The only cure is, if suppuration cannot be prevented, to discharge by a valvular opening the matter contained, which would otherwise be absorbed and occasion a fatal hectic. See SURGERY.

ORDER III. EXANTHEMATA.

Exanthema, *Sag.* Class X.

Phlegmasiæ exanthematicæ, *Sauv.* Class III. Ord. I.

Morbi exanthematici, *Lin.* Class I. Ord. II.

Febres exanthematicæ, *Vog.* Class I. Ord. II.

GENUS XXVI. ERYSIPELAS.

St. ANTHONY'S FIRE.

Erysipelas, *Sauv.* gen. 97. *Lin.* 10. *Sag.* gen. 296.

Febris erysipelacea, *Vog.* 68. *Hoffm.* 11. 89.

Sp. I. ERYSIPELAS with *Blisters*.

Erysipelas rosa, *Sauv.* sp. 1. *Seennert de febr.* lib. ii. c. 15.

Febris erysipelatosa, *Sydenham*, sect. vi. cap. 5.

Erysipelas typhodes, *Sauv.* sp. 2.

Erysipelas pestilens, *Sauv.* sp. 5.

Erysipelas contagiosum, *Sauv.* sp. 9.

1. *Description.*] The erysipelas of the face, where this affection very frequently appears, comes on with a cold shivering, and other symptoms of pyrexia. The hot stage of this is frequently attended with a confusion of the head and some degree of delirium; and almost always with drowsiness, and perhaps coma. The pulse is always frequent, and commonly full and hard.—When these symptoms have continued for one, two, or at most for three days, an *erythema* appears on some part of the face. This at first is of no great extent; but gradually spreads from the part it first occupied to the other parts of the face, till it has affected the whole; and frequently from the face it spreads over the hairy scalp, or descends on some part of the cheek. As the redness spreads, it commonly leaves, or at least is abated in, the parts it had before occupied. All the parts which the redness affects are also affected with some swelling, which continues for some time after the redness has abated. The whole face becomes considerably turgid; and the eye-lids are often so much swelled as entirely to shut up the eyes. When the redness and swelling have continued for some time, there commonly arise, sooner or later, blisters of a larger or smaller size on several parts of the face. These contain a thin colourless liquor, which sooner or later runs out. The surface of the skin in the blistered places sometimes becomes livid and blackish; but this seldom goes deeper, or discovers any degree of gangrene affecting the skin. On the parts of the face not affected with blisters, the cuticle suffers, towards the end of the disease, a considerable desquamation. Sometimes the tumor of the eye-lids ends in a suppuration.

The inflammation coming upon the face does not produce any remission of the fever which had before prevailed; and sometimes the fever increases with the spreading and increasing inflammation.

The inflammation commonly continues for eight or ten days ; and, for the same time, the fever and symptoms attending it also continue. In the progress of the disease, the delirium and coma attending it sometimes go on increasing, and the patient dies apoplectic on the seventh, ninth, or eleventh day of the disease. In such cases it has been commonly supposed, that the disease is translated from the external to the internal parts. But Dr. Cullen thinks that the affection of the brain is merely a communication from the external affection, as this continues increasing at the same time with the internal. When the fatal event does not take place, the inflammation, after having affected the whole face, and perhaps the other external parts of the head, ceases, and with that the fever also ; and, without any other crisis, the patient returns to his ordinary health. This disease is not commonly contagious ; but as it may arise from an acrid matter externally applied, so it is possible that the disease may sometimes be communicated from one person to another. Persons who have once laboured under this disease are liable to returns of it.

2. *Prognosis.* | The event of this disease may be foreseen from the state of the symptoms which denote more or less the affection of the brain. If neither delirium nor coma come on, the disease is seldom attended with any danger ; but when these symptoms appear early in the disease, and are in a considerable degree, the utmost danger is to be apprehended.

3. *Cure.* | The erysipelas of the face is to be cured, according to the opinion of some practitioners, much in the same manner as phlegmonic inflammation ; by blood-letting, cooling purgatives, and by employing every part of the antiphlogistic regimen. (See our observations under the head of Phlogosis Erythema, p. 333.) Many observations, however, would lead us to conclude, that, in not a few cases, the concomitant fever has here a tendency to the typhoid type ; and therefore evacuations apparently serviceable in the first instance, have afterwards a bad effect. The evacuations of blood-letting and purging are to be employed more or less according to the urgency of symptoms ; particularly those which mark an affection of the brain. As the pyrexia continues, and often increases with the inflammation of the face, so the evacuations above mentioned are to be employed at any time of the disease. When, however, the fever, in place of marks of the phlogistic diathesis, particularly a full, hard, and strong pulse, is attended with symptoms of great debility, and with a small pulse easily compressible ; evacuations, particularly under the form of blood-letting, must be used with very great caution. Even in such cases, however, the use of refrigerant cathartics may still be persisted in with more safety and greater advantage. Vide Form. (No. 31. and 44.) But whether evacuations have been employed or not, when symptoms of debility run to a great height,

and marks of a putrescent tendency appear, recourse must be had to wine and the Peruvian bark. (Vide Form. No. 13. and 46.) In cases which at the commencement require evacuation, these are often, in the after periods, employed with very great benefit.

In this, as in other diseases of the head, when that part happens to be the seat of erysipelas, it is proper to put the patient, as often as he can easily bear it, into somewhat of an erect posture; and as in this disease there is always an external affection, so various external applications have been proposed to be made to the part affected; but almost all of them are of doubtful effect.

An erysipelas frequently appears on other parts of the body besides the face, and such other erysipelatous inflammations frequently end in suppuration; but these cases are seldom dangerous. At coming on they are sometimes attended with drowsiness, and even with some delirium; but this seldom happens, and these symptoms do not continue after the inflammation is formed. Dr. Cullen does not remember to have seen an instance of the translocation of an inflammation from the limbs to an internal part: and though these inflammations of the limbs be attended with pyrexia, they seldom require the same evacuations as the erysipelas of the face.

It is to be observed, however, that the erysipelas in London will less admit of an antiphlogistic treatment than that which usually occurs in Scotland: and this difference is perhaps to be accounted for merely on the ground of diseases of debility being always more prevalent there than in Edinburgh.

Notwithstanding the remarks already referred to under the head of Phlogosis Erythema, we shall here introduce Professor Hufeland's observations on the erysipelas to which *new-born children* are liable.

"The erysipelas of new-born children," says he, "is a disease which, on account of its rarity, is not sufficiently known to practitioners. The danger, however, with which it is attended, renders this disease worthy of the attention of physicians, and its nature, as well as mode of treatment, deserve to be more fully ascertained by farther researches. We find very little mentioned on this subject in medical books. The first who records several cases of it is Bromfield (Med. Com.); it is likewise mentioned by Girtanner; but the best account is given by Professor Oslander, of Gottingen, in his Memoirs of Physic and Midwifery.

"The disease appears in the first days of life to the sixth week, and there are only a few cases recorded where children were born with it. Sometimes it is preceded by locked jaw and jaundice. At a single place, or on several at once, particularly in the lower extremities, regio inguinis, the neck, &c. red spots appear; which being at first but little raised on the skin, extend themselves afterwards, whereby the parts begin to swell, and become hard

and painful. On pressing the swelling with the finger, the spot where the finger is applied becomes white, but without leaving a dimple. The colour of the tumor is changed, and becomes dark red and blue; gangrenous blisters and petechiæ appear; the joints affected by the disease become stiff, the belly tense, and locked jaw and jaundice sometimes supervene a little before death comes on. The disease seems, in some cases, to originate from the epidemical constitution, at least Professor Oslander observed it at the time when many lying-in women were affected by bilious and rheumatic fevers. The remote causes of the disease are said to be, bad diet of the mother, a corrupted atmosphere in the nursery, colds and passions of the mother or nurse, as anger, fright, &c. obstructed excretion of the meconium; all which causes seem to act upon the nerves of the belly, particularly on the organs for the secretion of the gall, and on the lymphatic system, and vasa lactea, by which the gall rendered acrimonious from the morbid irritation, is absorbed, brought to the blood, and deposited in the external parts. The prognosis is doubtful, and the strong or weak constitution of the child seems to make no great difference. A successful event may be hoped according to Girtanner, when the erysipelas is confined to single places, and when it begins to suppurate, but when it extends itself to a greater surface, and first appears on the belly and genitals, or when gangrene supervenes, the prognosis is very bad; though Bromfield succeeded in saving a child under these circumstances. It proves certainly mortal, when the intestines are affected, or trismus comes on. The disease lasts from twenty-four hours to a fortnight, and longer.

“ The method of cure which has been employed here, though on the whole with little avail, consists in evacuating the intestinal canal by vomits, and purgatives of rhubarb, manna, magnesia, and clysters; in removing the spasm by flores zinci, opium, frictions with oil and opium applied on the belly and the liver region; in promoting diaphoresis by antimonials, spiritus Mindereri, warm baths; and at the transition of the inflammation to gangrene, in the external and internal use of the Peruvian bark, camphor, &c. The application of any preparation of lead is very noxious, as by repelling the eruption, it is likely to occasion dangerous metastasis towards the intestines. It is likewise not advisable to make use of the bark and camphor, when the disease is still in the inflammatory stage; though, according to Bromfield, it may be of great service, when the erysipelas threatens to become gangrenous. It seems, according to what Hufeland has observed, that on the whole, baths of warm milk, in combination with gentle diaphoretics and antispasmodics, as valerian, flores zinci, and in some cases musk, are the best remedies for

curing this dangerous infantile disease. On opening the bodies of children, who died of it, Professor Osiander remarked the following: the scrotum was swollen to the size of an egg, and at making an incision, a yellowish gelatinous matter issued, the vessels were much extended by blood, the testicles and penis not swollen, though their blood vessels were very red. The tela cellulosa between the integuments of the belly and the peritonæum contained also a great deal of that gelatinous matter, the vessels being at the same time full of blood. The abdomen was much inflated, and filled with an orange-coloured serum. The stomach was inflamed, and full of gangrenous spots; in one instance the intestines were much inflamed, and grown together by pseudo membranes. Between the intestines a yellow puriform matter was here and there discovered, similar to that which is found in persons who die of hepatitis and puerperal fever. The liver and spleen were likewise inflamed, blackish, and full of stagnant blood. The vesicula fellea contained half a drachm of black and thick gall; and, in another case, it was filled with a yellowish jelly, which was also contained in the vena umbilicalis. The pancreas was obdurate, and the lungs somewhat inflamed."

The erysipelas is a disease, which, if the latest opinions of its nature have any weight, must most frequently belong to the province of SURGERY; we have therefore noticed it fully in our subsequent volumes, where the reader will find some striking instances, adduced by Dr. Wells, a physician of London, tending to prove, that in some instances, the erysipelas is *contagious*. The following paper, inserted in the Medical and Physical Journal, by Dr. Stokes of Chesterfield, is a continuation of the same subject, and has too many ingenious points not to merit our attention. After acknowledging his obligations to Dr. Wells for having communicated to the public the reasons which have induced him to adopt the opinion of those who hold that erysipelas of the face is a contagious disease, he says:

"This opinion was never advanced by the late Dr. Cullen, though noticed by him. 'This disease,' says the Professor, 'is not commonly contagious; but as the disease may arise from an *acrid matter externally applied* (1), so it is possible that the disease may sometimes be communicated from one person to another (2).' I will now give you his commentary on this text, as I wrote it down, I believe, at the same time that Dr. Wells took his notes.

"(1) 'The sting of a bee or wasp, I have seen produce all the effects of erysipelas of the face; and it is probable, that acrimony may be communicated from one person to another.

"(2) 'An hospital physician, of sufficiently just information, says, that they have had instances of the contagious nature of the

disease, several persons being affected in the same room or ward. That it has been so communicated is a fact; but I have a hundred negative instances, in which only one in a family has been affected, though there was a free communication between the patient and the other branches of the family.'

"I observe, that in my copy of the professor's text book, I have drawn a line through the above paragraph; but whether by the professor's direction or not, I cannot call to mind.

"Now, what are we to think of Cullen from the text and the commentary? He admits the fact communicated by the hospital physician, but alleges, that he has a hundred negative instances to prove the contrary. Has not every one seen a hundred instances of typhus, in which only one in a family has had the disease? But should we be justified in asserting, that such a disease was not contagious? Dr. Wells's conclusion is, that the professor 'was either unconvinced of its truth, or was unwilling to acknowledge it;' but, if the doctor had continued to peruse the whole of the chapter, he would have found the following passage: 'We have hitherto considered erysipelas as, in a great measure, of a phlegmonic nature; and agreeably to that opinion, we have proposed our method of cure. But it is probable, *that an erysipelas is sometimes attended with, or is a symptom of, a putrid fever*; and in such cases, the evacuations proposed above may be improper, and the use of the Peruvian bark may be necessary; but I cannot be explicit on this subject, as such putrid cases have *not* come under my observation.' p. 14.

"Dr. Wells's cases, therefore, confirm the opinion of that excellent teacher, whom, however I may differ from him on the theory of fever, I shall venture to call the best writer on medicine of the eighteenth century, that 'it is probable that erysipelas is sometimes attended with, or is a symptom of, putrid fever.' Dr. W.'s two first cases, which occurred in May, 1796, appears to me to have been instances of typhus erysipelatosa, the erysipelas typhoides of Sauvages (Notul. i. 450). Of the nature of those cases of erysipelas of the face, which occurred in August and December, I do not presume to judge, my experience, like that of Cullen's, having been hitherto of the negative kind. Such of your correspondents as keep notes of their cases, may, perhaps, assist us in determining their nature. On the 7th of October, I had a case of erysipelas of the face, and another on the 9th of January, 1797. Typhus was the prevailing disease of September. I do not remember ever to have lost a patient in erysipelas of the face. Whether this has been the result of accident, or to my having seldom, if ever, employed venæsection, confining myself to natron vitriolatum, hydragrum, and antimonium tartarificatum, with the occasional use of cinchonæ, is uncertain. What is the nature of erysipelas of the face in the ten countries? Are

not the diseases of London, in some measure, still affected by the low grounds of Essex?"

Dr. Stokes here submits to the consideration of Dr. Wells, "whether, if the erysipelas of the face be at any time a really contagious disease, we may not expect to find, as in most contagious maladies, persons of all ages in the same family affected with it. I may add too, that 'persons who have once laboured under this disease,' as Cullen observes, 'are liable to returns of it.' Now, in contagious diseases, the reverse has been observed. Those who have had the small-pox are so seldom liable to be affected a second time, that every one considers himself as secure from the disease. The same person very rarely has the chin-cough; and those who have gone through typhus, are certainly less liable to receive the infection."

Sp. II. ERYSIPELAS with *Phlyctenæ*.

Erysipelas zoster, *Sauv.* sp. 8.

Zona; Anglis, *The SHINGLES*, *Ruffel* de tab. gland. p. 124. Hist. 35.

Herpes zoster, *Sauv.* sp. 9.

This differs from the former in no other way than in being attended with an eruption of *Phlyctenæ* or small watery bladders on several parts of the body.—The method of cure is the same.

Gen. XXVII. PESTIS, the PLAGUE.

Pestis, *Sauv.* gen. 91. *Lin.* 2. *Junck.* 78.

Febris pestilentialis, *Vog.* 33. *Hoffm.* II. 93.

Pestis benigna, *Sauv.* sp. 2. Pestis Massiliensis, Class III. *Traité de la peste*, p. 41. *Ejusdem pestis*, Cl. 5to. *Traité*, p. 228.

Pestis remittens, *Sauv.* sp. 9.

Pestis vulgaris, *Sauv.* sp. 1. Pestis Massil. Cl. ii. *Traité*, p. 38. *Ejusd.* Cl. iii. & iv. *Traité*, p. 225, &c. *Walajschmidt.* de peste Holfatica, apud *Halleri* Diss. Pract. tom. v. *Chenot.* de peste Transylvanica, 1755, 1779, de *Haen*, Rat. Med. pars xiv.

Pestis Egyptiaca, *Sauv.* sp. 11. *Alpin.* de Med. Egypt.

Pestis interna, *Sauv.* sp. 3. Pest. Massil. Cl. I. *Traité*, p. 37—224.

1. *History.*] Of this distemper Dr. Cullen declines giving any particular history, because he never saw it; from the accounts

of other authors, however, he is of opinion, that the circumstances peculiarly characteristic of it, especially of its more violent and dangerous states, are, 1. The great loss of strength in the animal functions, which often appear early in the disease. 2. The stupor, giddiness, and consequent staggering, which resembles drunkenness, or the head-ach and various delirium, all of them denoting a great disorder in the functions of the brain. 3. Anxiety, palpitation, syncope, and especially the weakness and irregularity of the pulse, denoting a considerable disturbance in the action of the heart. 4. Nausea and vomiting, particularly the vomiting of bile, which shews an accumulation of vitiated bile in the gall-bladder and biliary ducts, and from thence derived into the intestines and stomach; and which denote a considerable spasm, and loss of tone in the extreme vessels on the surface of the body. 5. The buboes and carbuncles, which denote an acrimony prevailing in the fluids; and lastly, the petechiæ, hæmorrhages, and coliquative diarrhœa, which denote a putrescent tendency prevailing in a great degree in the mass of blood.

To these characteristics of the plague enumerated by Dr. Cullen, we shall add one mentioned by Sir John Pringle, which, though perhaps less frequent than the others, yet seems worthy of notice. It is this: that in the plague there is an extraordinary enlargement of the heart and liver. In nine dissections of bodies dead of the plague at Marseilles, this extraordinary enlargement of the heart is taken notice of in all of them, and of the liver in seven of them. The account was sent to the Royal Society by M. Didier, one of the physicians to the king of France, and has been published in the Philosophical Transactions. In the first case, the author takes notice, that, "the heart was of an extraordinary bigness; and the liver was of double the natural size.—Case 2. The heart was of a prodigious bigness, and the liver much enlarged.—Case 3. The heart double the natural bigness.—Case 4. The heart was very large, and the liver was bigger and harder than ordinary.—Case 5. The heart was of a prodigious bigness.—Case 6. The heart was larger than in its natural state; the liver also was very large.—Case 7. The heart was of a prodigious size, and the liver was very large.—Case 8. The heart was much larger than natural, and the liver of a prodigious size.—Case 9. The heart was double the natural bigness, and the liver was larger than ordinary." This preternatural enlargement, Dr. Pringle thinks is owing to the relaxation of the solid parts, by which means they become unable to resist the impetus of blood, and therefore are easily extended; as in the case of infancy, where the growth is remarkably quick. And a similar enlargement he takes notice of in the scurvy, and other putrid diseases.

A very elaborate work has since been published on the subject of the plague by Dr. Patrick Russell, formerly physician to the Bri-

tish factory at Aleppo. In this work, a very full history is given of the various forms and varieties of the disease. He makes particular observations on the following symptoms, which, in addition to the pestilential eruptions, he considers as the most important concomitants of plague, *viz.* fever, delirium, coma, impediment or loss of speech, deafness, muddiness of the eyes, white tongue, state of the pulse, respiration, anxiety, pain of the heart, inquietude, debility, fainting, convulsions, appearances of the urine, perspiration, vomiting, looseness, and hæmorrhagy; and he concludes these remarks with some observations on the occurrence of the plague with pregnant women. To point out more distinctly the stable varieties of the disease, he arranges the pestilential cases which fell under his observation at Aleppo under six classes: and he concludes his description with a very minute and particular account of the pestilential eruptions appearing under the form either of buboes, carbuncles, or other exanthemata. The presence of the two first, he observes, either separately or conjointly, leaves the nature of the distemper unequivocal. But fatal has been the error of rashly pronouncing a distemper not to be the plague from their absence. Buboes affected the inguina, axillary, parotid, maxillary, and cervical glands. But the first were the most commonly affected, and the two latter seldom observed to swell, without either the parotid swelling at the time or soon after. Of the carbuncles, Dr. Ruffel describes five different varieties. The other exanthemata, which he observed sometimes, though less frequently, attending the plague, were petechiæ, a marbled appearance of the skin, an erysipelatous redness, streaks of a reddish purple or livid colour, vibices or weals, and large blue or purple spots, the *maculæ magnæ* of authors. In some cases, an extraordinary concurrence of eruptions took place, which was chiefly observed among children under ten years of age.

The following account of some cases of the plague, which occurred on board of a British ship of war, on the coast of Syria, communicated by Dr. Blane, to the editors of the Medical and Physical Journal, is highly worthy of attention:

"In the spring and summer of 1799, the plague prevailed in Syria, and was communicated to some of the British ships of war employed on that coast, particularly at the celebrated siege of St. Jean d'Acre. An account of some of these cases was sent by Mr. Tainth, surgeon of the *Thebes*, a seventy-four-gun ship, to the commissioners of sick and wounded seamen; and as there seems to be no doubt that these were cases of the true plague, from the description, as well as from the existence of it on the spot at that time, as opportunities of observing it rarely occur to practitioners of this country, and as it was successfully treated by powerful medicines, these cases seem deserving of being communicated to the public, particularly at this moment when the

defenders of our country are exposed to that dreadful malady in Egypt.

“The greater part of the symptoms enumerated are such as might occur in a violent fever; but the buboes which were observed in the axilla in three cases, and in the groin in two cases, out of the five which occurred, served, in conjunction with the other symptoms, to characterize and ascertain the disease. The most remarkable symptoms besides these were violent vomiting, *petechiæ*, swelled tongue, redness of the eyes, severe head-ach, and great debility; rigors, foul tongue, and the other concomitants of fever, also attended it. But it will be more satisfactory to give the most interesting and instructive parts of Mr. Tainsh’s narrative in his own words.

CASE 1.—“The first case was that of Colonel Philipeaux, a French officer, acting under the orders of Sir Sydney Smith, at the siege of Acre. He was always fearful of the plague, and dreaded much the touch of any Turk, which kept his mind in a state of continual anxiety. When seized with the disease he would take no medical advice, but drank copiously of lemonade. He died the fourth day of his illness by a hæmorrhage from the bowels, with other symptoms of a most severe fever. His bed and bedding were thrown overboard with him, and every precaution was taken to fumigate and cleanse the captain’s cabin where he died.

CASE 2.—“No other case occurred till we took several French boats off Jaffa, with wounded and sick men, after their departure from the siege of Acre. Those apparently in health, particularly the seamen, were ordered on board the *Theseus*, and one of them was seized with the symptoms above described, which in twenty-four hours were followed by buboes and extreme debility. Having at that time no sick, I removed him to the sick birth, ordered every part of his clothes off, and himself to be washed from head to foot with soap and warm water, after which his head, armpits, and pubis were shaved. He was furnished with a clean bed, linen, and night-cap, and all his former clothing were thrown overboard. I then gave him an emetic, consisting of half a drachm of ipecacuanha, and a grain and a half of tartar emetic; which not having operated freely, it was repeated in three hours, and he discharged an enormous quantity of bile, viscid fœces, and tough phlegm. I next gave him ten grains of calomel, and six grains of antimonial powder, and repeated them in four hours; he had, at the same time, a laxative clyster, which procured him several stools that seemed to give him much relief. He rested pretty well, and having some fever next day the antimonial was continued. Towards the evening he had an exacerbation, attended with delirium, which left him after the application of a blister to the head. He now complained of a bitter taste and

nausea, with great prostration of strength. I gave him a scruple of ipecacuanha and two grains of tartar emetic, which cleared the stomach of a large quantity of disagreeable matter, which gave him great ease. As he was now free from fever, I determined to give him the Peruvian bark, which was mixed with Port wine, and he took it with much pleasure, making signs for more. In an hour I let him drink half a pint of Port alone, which pleased him much; and after this he slept above three hours. On waking he was much refreshed. At bed-time I gave him six grains of camphor and two of opium, which procured him a good night, and next day he was greatly better. As he expressed much inclination for wine, I gave him some of the red wine with bark infused in it; but he preferred the wine by itself, which was very good, and by promising him plenty I prevailed on him to take the infusion alternately with it, regulating the quantity according to his sensations.

“ The buboes continued stationary during the early part of the fever; but as soon as he began to take wine and nourishment, they assumed an inflammatory appearance, with excruciating pain. I ordered warm fomentations and emollient poultices, and he took an opiate at bed-time. As these poultices did not seem to assist maturation, I ordered others, consisting of scap, assafoetida, and onions chopped small, which had the desired effect in bringing them to suppuration. I opened them with the lancet; the matter was of a thin sanious nature. The poultice being continued, the glands in a cluster protruded through the opening, without any suppuration having taken place in their substance. I cut them away, and dressed the sore with an ointment composed of yellow basilicon, mercury, and turpentine, applying the emollient cataplasin over all; and, in a few days, a good pus was produced. He gathered strength daily, sometimes drinking wine as far as two quarts, seldom less than three pints, in a day; he had also as good a diet as the ward-room table could afford. The cure was soon completed, much to my satisfaction, and he returned some time after to France in perfect health.

CASE 3.—“ The third case was that of a seaman, who was sent from the *Theseus* on board of a gun-boat. Having communication with the French boats which we took, and having drank a large quantity of spirituous liquor, he was brought on board in a state of low delirium, his tongue being swelled and protruded, his skin being dry, and his mouth parched; he had also a burning sensation over the whole body, with swellings in the arm-pits, *petechiæ*, and universal debility. I could not get him to swallow any thing, and he died in twenty-four hours.

CASE 4.—“ The fourth case was that of our ship's corporal, Matthew Garland, who had been on board a large boat lying along-side, to distribute wine and bread to some sick and wounded

Frenchmen; their wounds had not been dressed for three days; they were dressed in the boat, and supplied with more dressings. This man was seized with giddiness and reeling, as if drunk, his eyes rolling, and his tongue swelled, protruded, and foul; he had also nausea and retching, violent head-ach, shivering, and extreme debility. All his clothes and bedding were thrown overboard, himself washed well with soap, warm water, and vinegar, and shaved, as mentioned in the second case. An emetic was administered, and repeated three times in the course of twelve hours, which evacuated bile with a mixture of phlegm. At night, after the third emetic had operated, I gave him ten grains of calomel and eight of antimonial powder, and next morning rhubarb with infusion of senna, tamarinds, and cream of tartar, which produced vomiting and purging, after which succeeded a favourable change in all the symptoms, except in the bubo which was situated in the left groin, attended with great pain. I gave him bark, antimonials, wine, vitriolic æther with opium at bed-time, and treated the bubo as in the second case. The wine, bark, æther, and opium, were continued, particular attention was paid to the state of the bowels, and with these remedies and a good diet he soon recovered.

CASE 5.—“The fifth case was that of a Frenchman. After taking emetics, calomel, and rhubarb, which operated freely, he was sent on shore to Alexandria, and I learned afterwards from a French officer that he recovered.

“Mr. Tainsh observes at the conclusion of his letter,” says Dr. Blane, “that the only precaution he ever took against infection was, previously to touching the person, to rub his hands slightly over with olive oil, and on leaving the sick-birth, to wash it off with warm vinegar, water and soap.

“Though it is to be regretted that there are some points of importance which have been omitted in the narrative of these cases, such as the interval between the time of receiving the infection and the appearance of the disease; the particular day of the disease on which certain symptoms arose, on which certain remedies were employed, and on which death took place; and though the treatment of the local complaint may appear to some not agreeable to the rules of correct surgery, yet there are other points so instructive and novel, as to render this communication very interesting.

“Though the cases are not sufficiently numerous to be considered as the grounds of an established practice, yet it must be confessed that the method of cure was undertaken upon very rational principles, and founded on the analogy of the treatment of other diseases. All febrile diseases admit of spontaneous recovery; and a patient may, no doubt, occasionally survive, in spite

of improper practice; but the means employed in these cases were of so active a nature, that they could hardly have failed to have proved visibly pernicious, had they not been adapted to the complaint. From the terror naturally excited by this disease, there is a great want of practical facts; and Mr. Tainsh having, much to his honour, attended these cases with great deliberation and constancy of mind, his method of treatment seems highly deserving of notice and imitation.

“ The methods of prevention that were used are no less deserving of attention. The minute accuracy and great pains with which all adhering infection was destroyed, cannot be too much commended; and it is to be presumed that the safety of the attendants and ship’s company was owing to this.

“ Mr. Tainsh observes, that this disease is not so contagious as is commonly supposed; and ascribes its arising and constantly prevailing in Turkey, and not in the rest of Europe, to the uncleanly habits, and to the carelessness, indolence; and indifference of the Mahomedans, in consequence of the religious tenet of predestination. When the plague was in this country, it chiefly affected the lowest order of the people, who lived in ill-ventilated habitations, and were uncleanly in their persons. This is a remark of Lord Clarendon, in the history of his own life; and he says, that upon his return to London, he and the other people of condition, hardly missed one of their acquaintance who remained there during the plague. It has long been ascertained that the sphere of pestilential contagion is very small; and some are of opinion that absolute contact is necessary in order to its being caught. However this may be, it is evident that it peculiarly affects the inhalents of the skin, and not the organs and avenues of respiration, like most other infectious febrile diseases. All the peculiar discriminating symptoms of the plague are in proof of this, namely, the buboes, parotids, and carbuncles. It is remarked by Dr. Russell, with his usual accuracy of observation, that the glands of the groin which are affected with buboes in the plague, are not those which are affected in the venereal disease, but those situated under them, through which the lymphatics of the lower extremities pass. The swellings of the axillary and parotid glands are also in the situations we should expect from the absorption of virus by those parts of the surface of the body which are most exposed to the air, and the contact of external bodies. Carbuncles are also in proof of the connection of this disease with cutaneous absorption; and upon these grounds we cannot but allow that the friction with oil had probably a great effect in preventing the absorption of the pestilential virus, and that this, as well as the other facts contained in this communication, ought to be made known to those who are likely to be ex-

posed to this contagion, or whose duty it is to give directions for the prevention of this dreadful epidemic."

It appears, however, that the dreadful appellation of "*the Plague*," is sometimes given to other contagious diseases; and even to some of a very opposite medical character. A most curious instance of this occurs in the case of a gentleman who laboured under the epidemic remittent fever of *Busforah*, in the year 1780, as it was drawn up by himself, and accompanied with a detail of various circumstances by the late Mr. Hunter.

This interesting paper is inserted in the *Transactions of the London Society for the improvement of Medical and Chirurgical Knowledge*, and is introduced by Mr. Hunter with the following preliminary remarks:

"The following case," says Mr. Hunter, "is that of a gentleman, not unacquainted with medical learning, though not of the profession. To this circumstance it is owing, that an explanation is necessary of the sense annexed to the term *plague*, which occurs frequently. The author uses it in a somewhat *vague* sense, but probably such as is *customary at Busforah*; and calls by that name the *remittent fever*, which prevails every year, with various degrees of violence, in consequence of the annual overflowings of the Euphrates. But there is no resemblance between the plague, properly so called, and the remittent fever; they differ in their symptoms, progress, and causes, of which any one may easily satisfy himself, by consulting the excellent treatise lately published by Dr. Russell on the plague. There is further this remarkable difference between them, that they prevail in different seasons of the year. The warm weather of the month of May puts an end to the plague at *Busforah*, and it is not to be seen in the subsequent hot months; whereas the remittent fever begins in the month of May, in which the Euphrates usually overflows its banks in the neighbourhood of *Busforah*, and prevails chiefly in the warm months that follow. Our author frequently mentions the plague of 1773, supposing the remittent fever, and that epidemic, to be the same disease; but that is not the case. It was the real plague which raged at *Busforah* with such violence in 1773; and from authentic accounts of it in the possession of Dr. Russell, it appears that it first shewed itself in February, increased in March and April, beginning to diminish early in May, and by the end of that month entirely ceased."

Mr. Hunter very humanely adds, "It is impossible to read the narrative of the sufferings of this patient, without wishing that he had had the assistance of medical people, who had been acquainted with the proper mode of administering the bark in such fevers. The numerous remissions he had, furnished the best opportunities of giving it; and as in the end he owed his life to it,

so there can be no doubt but a more early use of it, would have saved him from much suffering and misery."

The original narrative here commences: "Ever since the great plague of 1773," says the writer, "in which it is estimated seven-eighths of the inhabitants perished, Bassorah has seldom escaped, every third or fourth year, a visitation from some malignant putrid disease. Whole families died, and remained unburied, until covered by the ruins of their houses. Thousands were interred in the streets, but so near the surface, that I have seen the bones of the dead in many places appearing above ground. To complete the calamity, the inhabitants, in less than three years after this plague, sustained a siege of thirteen months against the Persians, in which they experienced every distress that the sword, sickness, and famine, can inflict upon mankind."

"The overflowing of the Euphrates, and its waters stagnating on the desert, have always been accounted the leading primary causes of epidemical diseases at Bassorah. The great floods, from the melting of the snow on the mountains of Diarbekir, happened in the year 1780, early in the month of May, when the heats in Persia and Arabia began to be excessive. The desert, which reaches to the gates of Bassorah, is, for many miles, incrustated with a surface of salt, which, when mixed with the stagnated waters and exposed to the sun, produces the most noxious effluvia. So early as the 25th of May, the town was surrounded with a salt marsh, the heated steam arising from which, was, at times, almost intolerable; but the canal that runs through a great part of the city being filled with the dead bodies of animals, and all kinds of purid matter, and at low tides all these substances exposed to the sun, made the air in the town scarcely supportable; and being totally destitute of police, the streets were in many places covered with human ordure, the bodies of dead dogs and cats, which emitted a stench more disagreeable and putrid than any thing I ever experienced in my life."

"From the accumulation of so many causes, it is not surprising that epidemical disorders should have reigned at Bassorah in the year 1780; it is more wonderful that these diseases are not both more frequent, and more fatal."

"As to the degree of solar heat during the period of which I am about to speak, it far exceeded what I conceived the human frame to be capable of bearing. The sensation under this heat was totally different from what I had ever experienced; it resembled the approach of a heated substance to the body. According to Fahrenheit's thermometer, the quicksilver rose in the sun to between 156 and 162 degrees. From the 30th of May I never saw it so low as 156, but generally between 158 and 160. The glass was fixed to a wall, covered at top, but exposed to the re-

flected rays of the sun. I am told, that after I left Bufforah it was several degrees higher.

“ In the coolest part of the house, with the aid of every invention to decrease the heat, the quicksilver rose to 115 degrees; but after I came away I was informed that it rose still higher, even at seven o'clock in the morning, the hour which we accounted the coolest in the day. Much about this time two gentlemen, who had hitherto escaped the infection, were taken ill, and fled from the factory; they reported, that on the day on which they left Bufforah, the heat was so intolerable that no one could expose himself to it long enough to observe the thermometer in the sun.

“ I have heard from some of the oldest inhabitants of Bufforah, that they never remembered to have felt, or to have heard of such a degree of heat in any part of Arabia or Persia. Before we were all taken ill, the natives of the country appeared more alarmed at the heat of the weather than the Europeans; nothing could induce them to expose themselves to the sun after ten o'clock.

“ From the 10th of May the people of Bufforah began to foretell that the season would be marked by a severe and general sickness. This prediction was soon verified; towards the end of the month an intermitting bilious fever made its appearance in the town, which in a very few days spread with such amazing rapidity, that upon a computation not a fourth part of the inhabitants were exempted from this calamity.

“ About the latter end of May I was sensible at times of extreme and unusual internal heat and glowings, with sensations which I cannot describe, and once or twice I perceived an inclination to shiver. I seldom made water more than once in twenty-four hours, and then in small quantities, and of a very deep colour. My appetite and every other circumstance continued as usual.

“ I left Bufforah for Aleppo the 30th of May. On our arrival at Zebire, the heat was so intense that even the Arabs sunk under it. Most of the gentlemen who had accompanied me to this place felt it in a still more severe manner. I was quite overcome; I felt an unusual languor, weakness, alternate heat and cold, and many other symptoms which indicated an approaching fever. I could not immediately be prevailed upon to relinquish my journey; and although upon reflection I had not a ray of hope that I should be able to proceed, yet at that time a disappointment appeared to me equally dreadful with certain death in the desert. At night every symptom increased, the ensuing day all hopes of pursuing my journey vanished, and in the evening I was carried back to Bufforah. In two days I got tolerably well, but pains in my back, loins, limbs, and great prostration of strength, still re-

mained. About this time two gentlemen of the factory were seized with the fever, which now began to rage with violence.

" 5th June. From this day I date the actual commencement of my fever. About two o'clock, after dinner, I was suddenly attacked with a violent glowing heat all over my body, uneasiness, anxiety, and oppression, but in a very inconsiderable degree to what I afterwards experienced; also a swelling in my tongue, which had been coming on some days, and is one of the first symptoms of the fever that prevailed. The fit continued about two hours; a slight perspiration succeeded, which removed the fever, but left a head-ach, thirst, and pains in my back and limbs. In the evening with assistance I got upon the terrace, when the moon and stars appeared of a bright yellow, and all objects had that colour through the whole of my disease; also the pain in making water and across my loins became intolerable, like that felt in complaints of the stone in the bladder. I took some tartar emetic, which brought up a great deal of bile, and the next morning a purgative of Rochelle salts, manna, tamarinds, and anniseeds.

" 6th June. In the forenoon a free, copious perspiration, and a perfect intermission of the fever; at night became very restless and uneasy, could not sleep, which I partly imputed to a draught of strong mustard whey, with some antimonial wine, which instead of causing perspiration, produced the opposite effect.

" 7th. By the advice of a physician I took some weak decoction of bark, 1 oz. to two pints boiled to one, in the quantity of three tea-cups full before dinner. At three in the afternoon I had another hot fit, but not very severe. In the evening grew worse, heat and thirst excessive, drank mustard whey on going to bed, but had a very bad night;—no sleep, much oppressed, severe head-ach, and pain over my loins.

" 8th. I took a gentle purge of cream of tartar and manna, which operated and gave me some ease. Left off the bark, as it seemed to increase the febrile symptoms, and drank sage and apple tea, decoction of prunes, tamarinds, &c. At ten o'clock in the forenoon a very severe hot fit; heat intense, oppression in my stomach and breast almost insufferable. Mr. —, surgeon of the Eagle cruiser, gave me a most nauseous saline mixture, which vomited and purged me severely. The quantity of bile which came off my stomach was incredible, yet I felt no relief, and the agony of the hot fit continued till four o'clock in the afternoon, when it went off by a most profuse perspiration. During this fit my thirst was constant and intense. In the evening my skin became dry, the thirst returned, and I had a very bad, sleepless night.

" I now began to experience some of the dreadful symptoms which are, I believe, peculiar to fevers in Turkey and Arabia, a sensation of dread and horror totally unconnected with the

fear of death, for while the patient is most afflicted with this symptom, it is for the most part accompanied with a strong desire to put an end to his existence. The agony from the heat of the body is beyond conception; I have heard some of my fellow-sufferers roar hideously under the violence of the pain.

"9th. Till noon tolerably well. About one o'clock the hot fit attacked me, and was full as severe as yesterday; heat and thirst rather greater, and but little relief for more than an hour after the perspiration commenced. This attack left me very weak, much exhausted with cold weakening sweats, quick unequal pulse, severe head-ach, confusion, anxiety, and incessant thirst; a sleepless night, startings, anxieties, and a constant wish to terminate my sufferings by death.

"10th. Forenoon, pretty free from fever. Attacked at the same hour as yesterday. The fit more violent, delirium. The agony of the heat not to be expressed; the whole body as if on fire; unremitting thirst, profuse perspiration, yet no relief till late in the evening; no sleep, a dreadful night, &c. The pulse about 120, unequal and fluttering."

The picture here given of the ravages of this horrible scourge is extremely affecting. The author says, "A mere relation of facts can give but a faint idea of the wretched situation to which the factory was now reduced. By this time eleven-twelfths of the inhabitants of Bussorah were taken ill, numbers were daily dying, and the reports from Bagdad and Diarbekir of the increasing ravages of the plague, left the survivors not a ray of hope that they could escape from the calamity. On every countenance, pain, sickness, and horror, were strongly painted; nor were we even left the comforts of sympathy, as every mind was too much engrossed with its own sufferings to think of administering consolation to others. Four of us lay under the portico of one of the squares of the factory, calling out for water in a phrensy of thirst. We used to snatch it from each other, and to supplicate for a mouthful with as much fervor as a dying criminal for an hour of further life.

"About this period of the fever my eyes became very weak, and every object I saw was quite yellow. This effect was most perceptible at night, in looking at the moon and stars. In the evenings we were sometimes carried in our cots upon the terrace of the factory for air, but the wind was so heated by the burning sands of the desert, that we felt it more intolerable than even the lower apartments. We all remarked that the Shemam, or northern winds, which blew without intermission at that time, greatly increased our heat and thirst.

"The daily very evident increase of my fever, and its effects upon others becoming every day more fatal and alarming, determined me, while any strength remained, to embrace death.

offer of flying from the seat of infection to Bushire, in the *Ranger* cruiser.

" 11th. After an exceeding bad night, I was carried early in the morning on board the *Ranger*, and was not very ill until about nine o'clock, when I felt the fever coming on, with new and more alarming symptoms, violent head-ach, giddiness, dimness of sight, approaching delirium, horror, and a most painful oppression and burning heat in my stomach.

" In despair, and to try to quench the unsufferable heat in my stomach and bowels, I took a pretty large dose of nitre. The oppression and pain increased, in my confusion I took a paper of tartar emetic, which immediately began to operate. From that time, about ten o'clock, till half past two in the afternoon, I know but little of what passed. I was almost all that time either distracted with pain, or in a swoon; and had it not been for the extraordinary care and attention of the commander of the cruiser, who supported me in his arms, and administered such cordials as I, in the short moments of recollection, could call for, I have not a doubt but I must have sunk under this attack. He counted eight times that I fainted, and sometimes an interval of ten minutes before he could perceive any symptoms of returning life. I was chiefly supported by wine, hartshorn, and spirits of lavender. About three o'clock I had recovered my recollection: most copious and continued sweats had carried off the violence of the fever, but faintings and total privation of strength and spirits remained upon me till late in the evening, when I became to all appearance, for a short time, perfectly well. A little strength returned, every symptom of fever vanished, and my feelings were almost the same as if in perfect health. Some circumstances having prevented the *Ranger* carrying me to Bushire, I was taken ashore in the evening. When I was brought to the factory I had an appetite, and ate some chicken broth for supper. Mr. Ross, who had hitherto escaped the fever, administered a portion of laudanum, and, I believe, antimonial wine, on going to rest. I slept pretty well, and waked refreshed in the morning. I, however, soon became ill; and at noon I had a severe attack, which continued three or four hours, and left me greatly weakened, my skin extremely dry, pulse quick, fluttering, and irregular, beating from 100 to 120, with an unquenchable thirst, which no liquids could allay. We had no acids of any kind, which we had great reason to regret.

" I did not know till late in the evening that Mr. Abraham, the vice-consul, who for some days past had been ill of the same fever, had determined to embark in the *Eagle* cruiser next morning for Bushire, as the only chance of saving his life; and a conversation which I overheard to this effect, that as I was so very ill, and no hopes of my recovery, it would be better to leave me

behind to die at Bufforah, made me still more anxious to fly from the place, although I remember well I had not the most distant hope that I could live. I had suffered much at the factory, and in the peevishness of illness I thought (perhaps unjustly) that my living or dying seemed to be a matter of too little consequence to those whom in health I had treated with much kindness and affection.

"About ten o'clock, as I was lying in my cot, on a terrace adjoining the stairs from whence the boat was to put off, I was seized with such a fluttering, palpitation, starting, difficulty of utterance from the swelling of my tongue, that I lay in momentary expectation of breathing my last. This was, however, probably the cause of my hearing the preparations for the departure of the boat. About midnight they were leaving the shore. I could not make myself heard, and I was too weak to get up without help. I made several efforts, and at last overset the cot I was lying upon, and brought myself to the floor, from whence I crawled on my hands and knees to the side of the river. Humanity pleaded for me, and I was taken into the boat in a situation of wretchedness I never can forget. We were, after being several hours on the Euphrates, carried on board the Eagle, opposite to Margil, a country-house belonging to the factory, a few miles distant from Bufforah.

"12th. The day was uncommonly hot, and my fever came upon me about ten o'clock. The heat was intense. Mr. —, a young unexperienced Frenchman, gave me tamarind water and cream of tartar, which had not a good effect. I now discerned the first symptom of a cold fit, but it was slight, and of short duration. This day, however, I supported the fever rather better than usual, and in the evening had a short intermission, and slept a little during the night. The air on the river was this day cooler and more refreshing than on shore.

"13th. About eleven o'clock had a regular cold shivering fit, succeeded by a very severe hot fever, which continued till five in the evening, when I was somewhat relieved by perspiration.—This day the agony of the hot fit was inexpressible, with great pain in my loins, and a constant inclination to make water, which came from me in drops like blood.—I had a very bad sleepless night."

On the 14th, the author took a dose of tartarised antimony, which not working, was followed by some ipecacuanha. In consequence of this, he brought up a great deal of bile, but the fever increased, and his sufferings under it were greatly aggravated by the operation of the emetic, which worked powerfully both upwards and downwards.

"This," says the writer, was a trying day indeed. I can give no idea of what I suffered, which must have been intolerable.

ble, attended with intervals of delirium, and frequently swooning. About five the fever began to abate a little, and at six Mr. — gave me a small dose of decoction of bark, which seemed instantly to cause a return of the fever, heat, thirst, anxiety, and pain.

“ My fellow-sufferer, Mr. Abraham, was in violent agony this day; he cried out repeatedly, that a fire was consuming his bowels, and that he was in exquisite torture. The captain of the cruiser had been complaining; he, Mr. Abraham, and myself, lay in the same cabin. About four o'clock in the afternoon, when my pain was excessive, I crawled from my cott, with an intention to drop myself from a port-hole, which was under the captain's bed, into the river. I had nearly accomplished my purpose, when the captain perceived me, and had me carried into my bed. I was not delirious; and, in spite of all my resolution, the agony I suffered this day made me repeatedly scream out. One of our seamen died suddenly, and the blood, I was told, instantly flowed from all parts of his body.

“ This evening we arrived at Bushire. On our coming to an anchor, Mr. Abraham was immediately carried ashore; but I was too ill to be moved, and accordingly followed in the morning with Captain Sheriff, after a very severe sleepless night.

“ The heat was so excessive this day, that even the natives we had on board sunk under it, and many of them were struck down with the sun. By noon nobody could keep the deck; and about this time the vessel ran aground on the bar at the mouth of the Euphrates, but fortunately beat over, and got into the gulph. Two more of our people died in the evening; and I should have mentioned, that, in sailing down the river, we saw them throwing many dead bodies from the vessels which were at anchor below Bushorah, and many boats crowded with people from the Arabian shore passing over to Persia.

“ The Persians at first opposed the landing of our sick, and threatened to burn the ship; but they were prevailed upon, by the company's agent at Bushire, a most worthy man, to permit us to come ashore.

“ 15th. I was so weak, that it was with difficulty they could carry me ashore in my cott; my strength was quite gone, and I was helpless as an infant. Some grapes, water-melon, and ice, had been got for Mr. Abraham: of the latter he had eat freely; I was much pressed to do the same, but I was afraid of its increasing my pain, and could hardly be prevailed upon to taste it; I, however, swallowed a little, but by this time my tongue and throat were so swelled, that I had difficulty in getting any thing down. About ten o'clock I was attacked as usual, but I was become so weak, and the fever running even higher than usual, that I appeared in the course of this day, more than once, to be

in the agonies of death ; perspiration gave no relief to the violent pain and oppression I laboured under.

“ The Factory at Bushire is a miserable, wretched, mud building, bearing much more resemblance to a stable than a human abode ; the few rooms, or rather cells, are insufferably hot, even to those in health, and the rest of the building has no cover from the sun. In one of the best of these recesses in the wall Mr. Abraham and I were placed, and on the same bed, as there was not room for two ; our agonies were great, our cries dreadful. About seven o'clock in the evening I perceived my companion in the agonies of death. The company's agent, Mr. Beaumont, most humanely afforded him every assistance in his power ; and, when every other person was afraid to come near us, he himself attended, and administered such cordials as he thought might give us relief. Mr. Abraham died in great pain ; and for fear of alarming the inhabitants, or rather commandant or sheik of the town, Mr. Beaumont thought it necessary to conceal his death. It was some time before the dead body could be removed, which had become very putrid, and covered with purple spots. I have been since told, that immediately after death a great quantity of blood or bile flowed from him, as black as ink, and so highly offensive, as to be smelt at some distance from the factory. Past midnight we were both removed to the terrace, but, unfortunately for me, there was only one spot where we could lie, and the smell of the dead body was become intolerable ; I was, however, by the humane assistance of Mr. Beaumont, cleaned and put into another bed, who sat by me, and treated me with uncommon tenderness. I recovered a little, but passed a dreadful night indeed. I shuddered at the agony which I was to feel on the return of the sun, and most anxiously wished for death, as the only relief from pain that I could expect. I was unable at this time to move hand or foot, and at times could not speak. I told Mr. Beaumont that I thought a gentle dose of physic, if it could be got down, might alleviate the racking pain in my breast, stomach, bowels, and loins ; he accordingly prepared some salts, manna, and tamarinds, and gave it to me in the morning.

“ 16th. At eleven o'clock the violence of the fever came on ; I grew delirious, swooned, and the symptoms of approaching death, I was afterwards told, grew evident to those around me. My eyes were fixed, my tongue hung from my mouth, and my face grew quite black. I recovered from this fit about twelve o'clock, and felt excruciating pain, and a burning suffocating heat. My stomach and bowels seemed all on fire, my lungs played with the utmost difficulty, and I felt a pain and sensation about my heart which I cannot describe. I was unable to move ; my servant lifted me ; I fell into a swoon for a few minutes, and, when I came to myself, a great quantity of black putrid bile

flowed from me. Relief was instantaneuous, and I slept or swooned till about five o'clock, when I found myself free from fever, and able to speak, my recollection clear, and my mind perfectly composed, but my body so weak that I had no power of moving, except one of my hands. They gave me some sustenance; I had a little sleep; but about midnight I fell into a situation, which I had all reason to think indicated the immediate approach of death. My tongue cleft to my mouth, my extremities were as cold as ice, and the coldness also appeared to extend up my thigh: my arm was destitute of pulse, nor was the smallest pulsation of the heart perceptible; I never had my recollection clearer, or perhaps so clear, in my life. My servant was lying by my bedside; I was convulsed for some minutes; and, on recovering, I got out the word *Boy*. Fortunately for me he was not asleep, and heard me; I then got out the word *Wine*; on which he brought me a glass of claret, which, with much difficulty, I got down; I felt myself much revived; I reflected on my situation; and, although I had not the most remote idea of surviving that night, I recollected that I had some fine powdered bark in my trunk, and it occurred to me, that if any thing could be done to preserve my life, it would be that medicine taken in red wine; but my speech immediately failing me, I could not direct the servant to give it to me. Death seemed approaching; coldness had seized all my limbs; my sight became confused, as I perceived from looking at the stars, which danced before me; and the rattle or noise in my throat was very perceptible to the servant, as he afterwards told me. I fainted, and continued in a state of insensibility, I believe, for about an hour. The loud lamentations of the servant, bewailing his own misfortune in losing his master in a country so remote from his own, seemed to recal me to life. I felt as if refreshed with a little sleep, and got out the words *bark and wine*; it was instantly brought, and the man gave me two large tea-spoonsful, in a large glass of claret. The effect was instantaneuous, and operated like a charm; the coldness left me, I could speak intelligibly, and could move my hands. I told the servant to give me a tea-spoonful of the bark every hour, in a glass of claret. By eight in the morning I had taken six doses, and more than half a bottle of claret. I was considerably strengthened, and could converse with Mr. Beaumont, who encouraged me to persevere in the bark, and treated me with uncommon attention. I had been sadly neglected at Bufforah, but this was amply made up to me by the humane and tender attentions of Mr. Beaumont, who was a great predestinarian, and who never shunned danger when he felt it a duty to assist a fellow-creature. He waited upon me like a nurse, consoled me under pain and sickness, and, when my fever was at its greatest height, he has often held me in his arms, when I wanted to be removed, or my bed shifted. About this

time my legs and thighs became covered with blotches of a dusky brown hue, some of them as broad as the palm of the hand, quite dry, and they itched intolerably. At the same time several little boils broke out in different parts of my body, but there was only one, over my eye, which came to suppuration; the others, and the eruption on my legs and thighs, all disappeared.

" I continued the bark till twelve o'clock, and then left it off till four, when I took another dose. The dreadful fever of the preceding days did not return on this, but I was still extremely ill, had very great difficulty in speaking and breathing; a swelling also in my throat, parched tongue, and unquenchable thirst. I had not the most distant hope of living. I tried to take some broth, but the swelling in my throat prevented my swallowing. I passed a very bad night, with startings, anxiety, and great pain over the kidneys, and what little sleep I got seemed to make me worse; I was fatigued with it, and under the constant dread of suffocation; towards morning my throat grew worse, and my thirst was excessive.

" 18th. Left off the bark, uncertain what I ought to do—no fever, but the same symptoms as the day before—drank a little chicken-broth, which was the only sustenance I had taken for four days before; great oppression and heat in my stomach and bowels. Mr. Beaumont found out an Armenian, who professed physic. This man gave me a clyster, which gave me great relief, and a water to drink, famous as a febrifuge among the Persians; I drank of it freely, and found much benefit from it. But the most extraordinary of all the symptoms I experienced was this, that the third day after the first intermission of my fever, one of my teeth, and one of the nails of my hand, came out without the smallest pain, only a little swelling in the gum, and, on the nail falling off, some matter flowed from the end of my finger; I never had had the tooth-ach; at this time the boil on my eye suppurated.

" From the 18th of June to the 5th of July, being seventeen days, my fever did not return. I recovered strength slowly, and could walk a little, supported by two men. My food was chiefly chicken and veal broth, and about a glass and a half of Madeira wine a-day. Yet I had still many symptoms of disease hanging about me—restless fatiguing nights—great thirst—bad taste in my mouth, every thing I took seemed bitter and salt; pains in my back, sides, and loins, and great difficulty in making water. In this time I passed much bile, naturally and by clyster, and I had a purgative from the Armenian which weakened me greatly.

" The springs lifted, as seamen express it, the 11th of July, that is three days before the change. The opinion is universal in those countries, and also in India, particularly Bombay, where

intermittents are prevalent, that the change and full of the moon have an effect upon all intermitting diseases, of which, afterwards, I had many proofs in my own case. To prevent a relapse, I took some decoction of bark, but in too small quantities to answer the purpose.

“ 4th July. My water, from being thick and muddy, became quite clear.

“ The 5th of July, after dinner, I was taken with a slight hot fit, which continued about two hours, and then went off by copious perspiration; the remaining part of the evening I was entirely free from fever.

“ 6th. I took decoction of bark—no fever.

“ 7th. At eleven o'clock a regular cold and hot fit; the former continued three quarters of an hour, the latter two hours. Although much less severe than my former fever, yet I suffered a good deal from the hot fit. Left off the bark by the advice of the Armenian, who told me that it heated me, and made me worse.—Much weakened by this day's illness—nor did the perspiration entirely free me from the fever.

“ 8th. Had a clyster thrown up, and early in the morning took a draught from the Armenian, composed of fine vinegar, sugar, and a country seed infused over night in water.—A slight hot fit, but of short continuance.

“ 9th. The draught of yesterday repeated—at ten a regular cold and hot fit, rather less violent than the last.

“ 10th. No fever—tolerably well.

“ 11th. Between eight and nine in the morning a cold and hot fit, much more severe than the last—great heat, thirst, and oppression—much weakened. I now perceived I had got a regular tertian, and determined on the bark, but was prevailed on by the Armenian not to use it, he promising to cure me in a day or two. He gave me water-melon, and his infusion of vinegar and seeds.

“ 12th. No fever—find the water-melon to disagree greatly with my stomach.

“ 13th. Had not as yet indulged much hopes of a recovery. I felt still, even in those days previous to this last relapse, many alarming symptoms of disease, which made me apprehend I could not recover; and this last attack had again reduced me so low, that it was evident that, unless I could get removed from those scorching climates, a very short time would put an end to my life. Except in the humanity and goodness of Mr. Beaumont, I was without a single comfort or convenience of life at Buthire. The heat of the weather seemed daily to increase, and the house we were in hardly covered us from the direct rays of the sun. My servant was taken ill, and appeared to be dying; it was with

the greatest pleasure, therefore, I received the accounts this day of the *Eagle* cruiser having arrived last night from *Bussorah*, on her way to *Bombay*.

“ At half past seven o’clock I had a very severe fit—the hot fit was uncommonly violent, and continued about three hours. I was much reduced, and resolved, at all events, to take the bark in powder and in large doses, and dismiss the Armenian. In this I was confirmed by Mr. Puget, who informed me that the few survivors at *Bussorah* owed their lives entirely to the bark, which had at last been given in very large doses.

“ 14th. I took four doses, or eight teaspoonsful, of powdered bark. It purged me, and carried off a great quantity of black putrid bile. This evening I was carried in my cot on board the *Eagle*; resolved at all events, even if I had been certain of dying in the boat, to leave *Bushire*, where I had hardly shelter from the sun, and where the heat was so excessive, that Captain Alderson of the *Eagle*, and two passengers, were taken ill from it last night. I got on board very late, yet found myself much refreshed from the sea air.

“ 15th. The fever did not return. I continued to take the bark as yesterday, and found myself surprisingly strengthened. I persevered under this course till the 3d of August, when the vessel arrived at *Muscat*, and I was astonishingly recovered for the shortness of the time.

“ From the 14th of July to the 3d of August, I had taken seven ounces of bark; and as the fever had returned upon me the last day of the springs at the preceding change of the moon, two days before this change I increased my daily dose, and continued in this manner till the 4th, when the springs being over, and perceiving no symptoms of fever remaining, I left off the bark entirely. I had generally taken six teaspoonsful every day.

“ From the 15th of July till my arrival at *Muscat*, a sea-port on the coast of Arabia, my recovery was exceedingly rapid. I had a keen appetite, a pretty good digestion, sound refreshing sleep, and my daily increase of strength was very perceptible. My diet, till this time, had been generally chicken-broth, rice, and boiled fowl, light pudding, &c. On leaving off the bark I observed no particular regimen, only abstaining from salted and high-seasoned meats, and confining myself to three or four glasses of Madeira. I found that an infusion of prunes, with a small quantity of cream of tartar, was of much service to me during the course of the bark, as it kept me cool and my body open. I was sensible, at times, during my recovery, of a slight but troublesome pain under my fifth rib on the right side, especially when I lay on that side; but from feeling and pressing my hand over the region of the liver, and from other circumstances, I had no

reason to suspect that my liver was affected ; and as it soon left me, the cause was probably trifling or accidental.

“ On my leaving Muscat, a large boil came upon the hip-bone, the size of a small melon, extending some way up the side and down the thigh, with a hard basis. After arriving at Bombay, which we did in fourteen days, it broke, and in a few days healed up. I shall only add, that at Bombay I was detained four months, before I had an opportunity of proceeding to Europe. In that time I had three returns of my ague, but, on taking a few doses of bark, it left me. Those attacks happened at the change of the moon. From Bombay to Europe I had three or four slight fits of the ague ; the worst on our making the coast of South Guinea, at the settlement of Benguela, where we found the wretched remains of a Portuguese garrison, the survivors of a fatal putrid fever, which, as they told us, raged in those parts for eighteen months before. The last attack I had was the day we made the rock of Lisbon, since which time I have had no returns of the ague, although, when the wind continues long at east, I am sensible of a tendency to that complaint.

“ I shall now give a brief account of the fate of my fellow-sufferers at Bussorah. This unfortunate party consisted of Capt. Sheriff, of the Eagle cruiser ; Mr. Brown, a Bengal merchant, carrying goods from India to Aleppo ; Mr. Palmer, a gentleman returning with his fortune from Bengal to Europe ; Mr. Robson, surgeon to the factory ; Mr. Abraham, the vice-consul ; Dr. Ross, who had practised many years at Constantinople, some time in Bengal, and was then taking the opportunity of accompanying me across the desert ; Mr. Smith, a merchant from India ; and an Italian Carmelite, the vicar of Bussorah, who came from Bombay. It is unnecessary to say, that the *seca dah* is a common symptom in the Turkish fever, or, in other words, a strong desire of self-destruction. We had a fatal instance of it in our party. Mr. Brown, the second day of his fever, being left alone, got to his pistols, and, throwing in four or five balls, discharged it into his breast, and was found dead a few minutes afterwards. I believe every one of us at times would have done the same, had we been possessed of the means of accomplishing it. Mr. Robson died the third day of his fever in great agonies, but perfectly sensible ; his was a continued high fever, without any remission. Mr. Palmer died the fourth day under the same symptoms as the preceding. The Carmelite, the second morning after he was taken ill, had opened a vein in his arm, and bled to death, most probably intentionally. Captain Sheriff was seized with the fever on his return from Bussorah to Bushire. He died on the third day in a manner which is even painful to relate. He was a man of singular strength of constitution, and suffered unusual

agonies before he died. His cries were heard all over the factory ; he foamed at the mouth, gnashed his teeth, and tore his arms with his teeth. Those who heard him compared his cries to the bellowing of a mad bull. He was no sooner dead but his body was covered with purple spots, and so offensive that the people could hardly carry it out to be buried. Mr. Sheriff's was what they call the worst kind of plague."

The author next alludes to a gentleman whom he has mentioned in the course of his interesting narrative, and who, he says, was an uncommon character. "He was shut up in a mud-house at Bufforah during the great plague in 1773, which he escaped. He had fortunately a large stock of Bengal cotton goods with him, which he disposed of to the inhabitants to wrap their dead in. They used to deposit the price in a basket, which by means of a long rope he let down, which was then hauled up, and lowered again with the cloth purchased. He had an account of 70,000 winding-sheets which he sold during the calamity. This fact was attested by Mr. Abraham and the consul. He was a well-informed, sensible man, and an excellent linguist. On his voyage to Bufforah he was seized with a species of insanity: he suspected the captain and supercargo of his ship to have conspired his death, and he fancied he overheard their deliberations on the subject: he always slept with pistols in his cote, and refused all manner of communication with his conspirators, as he called them. He then imagined himself possessed of the singular faculty of overhearing, by the peculiar construction of his ears, the most distant whisper to his prejudice. Although such an idea was absurd, yet he could argue upon it with a great deal of ingenuity. In all other respects he was perfectly reasonable, and conversed on every other subject with much good sense and propriety. On the breaking out of this sickness at Bufforah he shut himself up in the upper room of an Armenian's house, and had no intercourse whatever with the other Europeans. It was not known how he existed: he, however, escaped the infection. He afterwards came to England, where I have seen him, and he appeared perfectly well.

"Dr. Ross, on the first rumour of the plague, put himself under a course of bark, which he continued taking in large quantities while I remained at Bufforah. I have since seen him in England, and he told me that when the illness began to abate, he was taken with an intermitting fever; that he fled from Bufforah in an open boat towards Bagdat, but was taken by a party of Arabs, who carried him upon the desert. He contrived to get away from them, crossed the desert to Aleppo, and afterwards got to England.

"It was computed that 275,000 died in the town of Bufforah

of the plague of 1773; and that 25,000 died, in the town and neighbourhood, of this last plague. We heard of its approach from Asia Minor; it ravaged Diarbekir, ancient Assyria, and kept the course of the river Tygris to Bagdat, where many died. From thence it followed the course of the Euphrates to Bussorah, and for about twenty miles lower. The opposite, or Persian shore, although within a few miles, was exempted; nor did it spread more than a few miles into the desert."

The author concludes by describing the first symptoms of this fever, or *plague*, which he says are, generally, "a swelling of the tongue, violent head-ach, bleeding at the nose, pains all over the body, a constant inclination to make water, which comes in drops, and attended with great pain, and is as high-coloured as blood; (if the urine, on standing, becomes purple, it is said to be a certain sign of death); extreme heat, great apprehension, all objects appearing of a yellow colour, uncommon terror, and at the same time a great desire for death; there are also boils or eruptions on the skin, which most commonly appear either just before the disease proves fatal, or the patient begins to recover."

2. *Causes, &c.*] From a consideration of the symptoms which characterize the *true plague*, Dr. Cullen concludes, that it is owing to a *specific contagion*, often suddenly producing the most considerable debility in the nervous system or moving powers, and a general putrescency in the fluids. Dr. Russel also considers the disease as being universally the consequence of what may be called *pestilential contagion*; and has judiciously repelled the objections which have been brought against this doctrine.

3. *Prevention.*] Here we must refer to all those methods of preventing and removing the incipient contagion of putrid fevers, which have been so fully enumerated. Dr. Cullen is persuaded that the disease never arises in the northern parts of Europe, but in consequence of being imported from some other country. The magistrate's first care, therefore, ought to be to prevent the importation; and this may generally be done by a due attention to bills of health, and to the proper performance of quarantines.—With respect to the latter, he is of opinion, that the quarantines of persons may with safety be much less than forty days; and if this were allowed, the execution of the quarantine would be more exact and certain, as the temptation to break it would be in a great measure avoided. With respect to the quarantine of goods, it cannot be perfect unless the suspected goods be unpacked, duly ventilated, and other means be employed for correcting the infection they may carry; and if all this be properly done, it is probable that the time commonly prescribed for quarantine may be also shortened.

A second measure in the way of prevention is required, when

an infection has reached and prevailed in any place, to prevent that infection from spreading into others. This can only be done by preventing the inhabitants or the goods of any infected place from going out of it till they have undergone a proper quarantine.

The third measure, and which ought to be employed with great care, is to prevent the infection from spreading among the inhabitants of a place in which it has arisen. And in this case, a great deal may be done by the magistrate. 1. By allowing as many of the inhabitants as are free from infection, and are not necessary to the service of the place, to go out of it. 2. By discharging all assemblies, or unnecessary intercourse of the people. 3. By ordering some necessary communications to be performed without contact. 4. By making such arrangements and provisions as may render it easy for the families remaining to shut themselves up in their own houses. 5. By allowing persons to quit houses where infection appears, upon condition that they go into lazarettoes. 6. By ventilating and purifying, or destroying, at the public expence, all infected goods. 7. By avoiding hospitals, and providing separate apartments for infected persons.

The fourth and last part of the business of prevention respects the conduct of persons necessarily remaining in infected places, especially those obliged to have some communication with persons infected. Those obliged to remain in places infected, but not to have any near communication with the sick, must avoid all near communication with other persons or their goods; and it is probable, that a small distance will serve, if, at the same time, there be no stream of air to carry the effluvia of persons or goods to some distance. Those who are obliged to have a near communication with the sick, ought to avoid any of the debilitating causes which render the body susceptible of infection, as a spare diet, intemperance in drinking, excess in venery, cold, fear, or other depressing passions of the mind. A full diet of animal food is also to be avoided, because it increases the irritability of the body, and favours the operation of contagion; and indigestion, whether from the quantity or quality of the food, contributes very much to the same.

Besides these, it is probable that the moderate use of wine and spirituous liquors, moderate exercise, and the cold bath, may be of use; tonic medicines also, of which the Peruvian bark is deservedly accounted the chief, may likewise be used with some probability of success. If any thing is to be expected from antiseptics, Dr. Cullen thinks camphor preferable to any other. In general, however, every one is to be indulged in the medicine of which he has the best opinion, provided it is not evidently hurtful. Whether issues be useful in preserving from the effects of contagion, is a matter of doubt. Dr. Russel in his treatise enters

very fully into the consideration of the means of prevention, both with respect to quarantines, lazarettoes, and bills of health. He is of opinion that the present laws on these subjects are in many respects defective: and he thinks, that a set of new regulations would have the best chance of a deliberate and impartial discussion in the senate, if the enquiry were taken at a time free from all apprehension of immediate danger.

Cure.] Here, according to Dr. Cullen, the indications are the same as in fever in general, but are not all equally important. The measures for moderating the violence of reaction, which operate by diminishing the action of the heart and arteries, have seldom, he thinks, any place here, excepting that the antiphlogistic regimen is generally proper. Some physicians have recommended bleeding, and Sydenham even seems to think it an effectual cure; but Dr. Cullen supposes, that for the most part it is unnecessary, and in many cases might do much hurt. Dr. Ruffel, however, who on this subject speaks from experience and actual observation, is of a different opinion. With most of his patients, a single bleeding was employed with advantage; and even where the sick under his inspection were bled oftener than once, he did not find that the low state was thereby hurried on. Purging has also been recommended; and in some degree it may be useful in drawing off the putrescent matter frequently present in the intestines; but a large evacuation this way may certainly be hurtful.

The moderating the violence of reaction, as far as it can be done, by taking off the spasm of the extreme vessels, is a measure, in Dr. Cullen's opinion, of the utmost necessity in the cure of the plague: and the whole of the means formerly mentioned, as suited to this indication, are extremely proper. The giving an emetic, at the first approach of the disease, would probably be of great service; and it is probable, that, at some other periods of the disease, emetics might be useful, both by evacuating bile abounding in the alimentary canal, and by taking off the spasm of the extreme vessels. Indeed Baron Ash, and some other of the Russian practitioners, represent the early and repeated use of emetics as the only and effectual mode of cure.

From some principles with respect to fever in general, and with respect to the plague in particular, Dr. Cullen is of opinion, that after the exhibition of the first vomit, the body should be disposed to sweat; but this sweat should be raised only to a moderate degree, though it must be continued for twenty-four hours or more if the patient bears it easily. The sweating is to be excited and conducted according to the rules laid down under *SYNOCHA*; and must be promoted by the plentiful use of diluents rendered more grateful by vegetable acids, or more powerful by being impregnated with some portion of neutral salts. To support the patient under the continuance of the sweat, a little weak broth,

acidulated with the juice of lemons, may be given frequently, and sometimes a little wine if the heat of the body be not considerable. If sudorific medicines are judged necessary, opiates will be found most effectual and safe; but they should not be combined with aromatics, and probably may be more effectual if joined with a portion of emetics and of neutral salts. But if, notwithstanding the use of emetics and sudorifics in the beginning, the disease should still continue, the cure must turn upon the use of means for obviating debility and putrescency; and for this purpose tonic medicines, especially the Peruvian bark, and cold drink, are the most proper. The most proper treatment of the buboes and carbuncles which occur in this disease, belong to surgery.

To the foregoing suggestions as to the treatment of the plague, we shall add the more circumstantial account given by Dr. For-dyce.

The putrid vapour in the air may perhaps be destroyed by impregnating it with acids; as, by burning great quantities of wood, or detaching great quantities of concentrated muriatic acid from sea-salt by the vitriolic, and evaporating it.

Fear, grief, and anxiety, indigestible and flatulent food, costiveness, cold, and the other causes of fever, are to be avoided as much as possible.

Medicines destroying the irritability of the body may be exhibited (as a glass of wine) when any one is unavoidably exposed to the infection in circumstances where it would act more powerfully. The bark may be used as a preservative, according to (No. 46.) or in a similar form.

The fever is to be put a stop to, if possible, by the most powerful means of taking off the symptoms of the first stage. Thus (No. 1.) should be administered:

Cap. vesp. hora ix superbib. Infus. Cham. vel Card. Benedict. nequaquam tamen ultra modum urgeatur vomitus; in lecto etiam detineatur æger.

After the operation of the emetic, the patient is to be laid in cloth of cotton or flannel, his head bound round, and when warm, the draught (No 33.) is to be given.

If a sweat can be raised by these means, it is to be kept up by the relaxing medicines (No. 27.).

If the vomiting should continue, it might perhaps be advisable to add a few drops of laudanum to the draught.

The patient is to drink copiously of any warm watery fluid at the same time.

If by these means the fever should be carried off, (No. 36. and 37.) may be made use of to prevent a relapse.

If the symptoms indicating strong action of the vessels should be very violent, it may be necessary to take away a little blood. No solid food is to be used.

From the descriptions given, and methods of cure applied by the different authors who have treated of the plague in cold climates, the above seems to be the most promising means of saving patients, who would otherwise certainly be destroyed.

An inflammation of a lymphatic gland, sometimes arises at the beginning, and diminishes or entirely carries off the fever. This inflammation is never to be taken off, but always brought to suppuration.

Inflammations also arise in this disease, which tend very strongly to gangrene.

Multitudes of patients appear to have been lost for want of necessary attendance, on account of the danger.

GENUS XXVIII. VARIOLA.

The SMALL-POX.

Variola, *Sauv.* gen. 92. *Lin.* 3. *Sag.* gen. 290.

Febris variolosa, *Vog.* 35. *Hoffm.* II. 49.

Variolæ, *Boerb.* 1371. *Junck.* 76.

Sp. I. *The distinct SMALL-POX.*

Variola discreta benigna, *Sauv.* sp. 2.

Variolæ regulares discretæ, *Syden.* sect. iii. cap. 2.

Variolæ discretæ simplices, *Helvet.* Ob. sp. 1.

Variola discreta complicata, *Sauv.* sp. 2. *Helvet.* sp. 2.

Variolæ anomalæ, *Sydenh.* sect. iv. cap. 6.

Variola discreta dysenteriodes, *Sauv.* sp. 4. *Sydenh.* sect. iv. cap. 1.

Variola discreta vesicularis, *Sauv.* sp. 5.

Variola discreta crystallina. *Mead,* de variol. cap. 2.

Variola discreta verrucosa, *Sauv.* sp. 6. *Mead,* ibid.

Variola discreta filiquosa, *Sauv.* sp. 7. *Freind,* Oper. p. 358.

Variola discreta miliaris, *Sauv.* sp. 3. *Helvet.* Obs. sp. 3.

Sp. II. *The confluent SMALL-POX.*

Variola confluens, *Sauv.* sp. 9.

Variolæ regulares confluentes, ann. 1667. *Sydenham,* sect. iii. cap. ii.

Variolæ confluentes simplices, *Helvet.* Obs. sp. 1.

Variola confluens crystallina, *Sauv.* sp. 10.

Variola japonica, *Kempfer.*

- Vesiculæ divæ Barbaræ, *C. Pis.* Obs. 149.
- Variola confluens maligna, *Helvet.* Obs. sp. 1.
- Variola confluens cohærens, *Sauv.* sp. 11.
- Variola confluens maligna, *Helvet.* sp. 2.
- Variola confluens nigra, *Sauv.* sp. 12. *Sydenham*, sect. v. cap. 4.
- Variola confluens maligna, *Helvet.* sp. 3.
- Variola sanguinea, *Mead*, de variolis, cap. 2.
- Variola confluens corymbosa, *Sauv.* sp. 13.
- Variola confluens maligna, *Helvet.* sp. 4.

I. *Description.*] In the distinct small-pox, the disease begins with a synocha or inflammatory fever. It generally comes on about mid-day, with some symptoms of a cold stage, and commonly with a considerable languor and drowsiness. A hot stage is soon formed, and becomes more considerable on the second and third day. During this course children are liable to frequent startings from their slumbers; and adults, if they are kept in bed, are disposed to much sweating. On the third day, children are sometimes affected with one or two epileptic fits. Towards the end of the third day the eruption commonly appears, and gradually increases during the fourth; appearing first on the face, and successively on the inferior parts, so as to be completed over the whole body on the fifth day. From the third day the fever abates, and against the fifth it entirely ceases. The eruption appears first in small red spots hardly eminent, but by degrees rising into pimples. There are generally but few on the face; but, even when more numerous, they are separate and distinct from one another. On the fifth or sixth day, a small vesicle, containing an almost colourless fluid, appears on the top of each pimple. For two days these vesicles increase in breadth only, and there is a small hollow pit in the middle, so that they are not raised into spheroidical pustules till the eighth day. These pustules, from their first formation, continue to be surrounded with an exactly circular inflamed margin, which, when they are numerous, diffuses some inflammation over the neighbouring skin, so as to give somewhat of a damask-rose colour to the spaces between the pustules. As the pustules increase in size, the face swells considerably if they are numerous on it; and the eyelids particularly are so much swelled, that the eyes are entirely shut. As the disease proceeds, the matter in the pustules becomes by degrees more opaque and white, and at length assumes a yellowish colour. On the 11th day the swelling of the face is abated, and the pustules seem quite full. On the top of each a dark spot appears; and at this place the pustule, on the 11th day, or soon after, is spontaneously broken, and a portion of the matter oozes out; in consequence of which the pustule is shrivelled, and subsides; while the matter oozing out dries, and forms a crust upon its surface. Sometimes

only a little of the matter oozes out, and what remains in the pustule becomes thick and even hard. After some days, both the crusts and the hardened pustules fall off, leaving the skin which they covered of a brownish colour; nor doth it resume its natural red colour till many days after. In some cases, where the matter of the pustules has been more liquid, the crusts formed from it are later in falling off, and the part they covered suffers some desquamation, which occasions a small hollow or pit in it.

On the legs and hands the matter is frequently absorbed; so that at the height of the disease, these pustules appear as empty as vesicles. On the 10th and 11th days, as the swelling of the face subsides, a swelling arises in the hands and feet; but which again subsides as the pustules come to maturity. When the pustules on the face are numerous, some degree of pyrexia appears on the 10th and 11th days; but disappears again after the pustules are fully ripened, or perhaps remains in a very slight degree till the pustules on the feet have finished their course; and it is seldom that any fever continues longer in the distinct small-pox. When the pustules are numerous on the face, upon the sixth or seventh day some uneasiness of the throat, with a hoarseness of the voice, comes on, and a thin liquid is poured out from the mouth. These symptoms increase with the swelling of the face; and the liquids of the mouth and throat becoming thicker are with difficulty thrown out: and there is at the same time some difficulty in swallowing, so that liquids taken in to be swallowed are frequently rejected or thrown out by the nose. But all these affections of the fauces are abated as the swelling of the face subsides.

In the confluent small-pox all the symptoms above mentioned are much more severe. The eruptive fever particularly is more violent; the pulse is more frequent and more contracted, approaching to that state of pulse which is observed in typhus. The coma is more considerable, and there is frequently a delirium. Vomiting also frequently attends, especially at the beginning of the disease. In very young infants epileptic fits are sometimes frequent on the first days of the disease, and sometimes prove fatal before any eruption appears, or they usher in a very confluent and putrid small-pox. But, at the same time, it has been justly remarked by Dr. Sydenham, and other accurate observers, that epileptic attacks more frequently precede distinct and mild, than malignant and confluent, small-pox. The eruption appears in the confluent more early on the third day, and it is frequently preceded or accompanied with an erysipelatous efflorescence. Sometimes the eruption appears in clusters, like the measles. When the eruption is completed, the pimples are always more numerous upon the face, and at the same time smaller and less

eminent. Upon the eruption the fever suffers some remission, but never goes off entirely; and after the fifth or sixth day it increases again, and continues to be considerable throughout the remaining part of the disease. The vesicles formed on the top of the pimples appear sooner; and while they increase in breadth they do not retain a circular, but are every way of an irregular figure. Many of them run into one another, insomuch that very often the face is covered with one vesicle rather than with a number of pustules. The vesicles, as far as they are any way separated, do not arise to a spheroidal form, but remain flat, and sometimes the whole of the face is of an even surface. When the pustules are in any measure separated, they are not bounded by an inflamed margin, but the part of the skin that is free from pustules is commonly pale and flaccid. The liquor that is in the pustules changes from a clear to an opaque appearance, and becomes whitish or brownish, but never acquires the yellow colour and thick consistence that appears in the distinct small-pox. The swelling of the face, which only sometimes attends the confluent kind, also comes on more early, and arises to a greater height, but abates considerably on the tenth or eleventh day. At this time the pustules or vesicles break and shrivel; pouring out at the same time a liquor, which is formed into brown or black crusts, which do not fall off for a long time after. Those of the face, in falling off, leave the skin subject to a desquamation, which pretty certainly produces pittings. On the other parts of the body the pustules of the confluent small-pox are more distinct than on the face; but never acquire the same maturity and consistence of pus as in the properly distinct kind. The salivation, which sometimes only attends the distinct small-pox, very constantly attends the confluent; and both the salivation and the affection of the fauces above mentioned are, especially in adults, in a higher degree. In infants a diarrhœa comes frequently in place of a salivation.

In this kind of small-pox there is often a very considerable putrescency of the fluids, as appears from petechia, from serous vesicles, under which the skin shews a disposition to gangrene, and from bloody urine or other hæmorrhages; all of which symptoms frequently attend this disease. In the confluent small-pox also, the fever, which had only suffered a remission from the eruption to the maturation, at or immediately after this period is frequently renewed again with considerable violence. This is what has been called the *secondary fever*, and is of various duration and event.

2. *Causes, &c.*] It is evident that the small pox is originally produced by a contagion; and that this contagion is a ferment with respect to the fluids of the human body, which assimilates a great part of them to its own nature; or, at least, we have every

reason to believe that a small quantity of contagious matter introduced, is somehow multiplied and increased in the circulating fluids of the animal body. This quantity passes again out of the body, partly by insensible perspiration, and partly by being deposited in pustules: the causes which determine more of the variolous matter to pass by perspiration, or to form pustules, are probably certain circumstances of the skin, which determine more or less of the variolous matter to stick in it, or to pass freely through it. The circumstance of the skin, which seems to determine the variolous matter to stick in it, is a certain state of inflammation depending much on the heat of it: thus we have many instances of parts of the body, from being more heated, having a greater number of pustules than other parts. Thus parts covered with plasters, especially those of the stimulant kind, have more pustules than others. Certain circumstances also, such as adult age, and full living, determining to a phlogistic diathesis, seem to produce a greater number of pustules, and *vice versa*. It is therefore probable, that an inflammatory state of the whole system, and more particularly of the skin, gives occasion to a greater number of pustules; and the causes of this may produce most of the other circumstances of the confluent small-pox, such as the time of eruption, the continuance of the fever, the effusion of a more putrescent matter, and less fit to be converted into pus, together with the form and other circumstances of the pustules.

3. *Prognosis.*] The more exactly the disease retains the form of the distinct kind, it is the safer; and the more completely the disease takes the form of the confluent kind, it is the more dangerous. It is only when the distinct kind shews a great number of pustules on the face or otherwise, by fever or putrescency, approaching to the circumstances of the confluent, that the distinct kind is attended with any danger.

In the *confluent* kind the danger is always very considerable; and the more violent and permanent the fever is, the greater the danger; and especially in proportion to the increase of the symptoms of putrescency. When the putrid disposition is very great, the disease sometimes proves fatal before the eighth day; but in most cases death happens on the eleventh, and sometimes not till the fourteenth or seventeenth day.

Though the small-pox may not prove immediately fatal, the more violent kinds are often followed by a morbid state of the body, sometimes of very dangerous event. These consequences, according to Dr. Cullen, may be imputed sometimes to an acrid matter produced by the preceding disease, and deposited in different parts; and sometimes to an inflammatory diathesis produced and determined to particular parts of the body.

4. *Cure.*] The art of medicine hath never yet afforded a me-

thod of preventing the eruption of the small-pox after the contagion is received; all that can be done is, to render the disease more mild, which is generally effected by INOCULATION. It is not to be supposed that the mere giving of the infection artificially could make any difference in the nature of the disease, was it not that certain precautions are commonly used in the case of those who are inoculated, which cannot be used in the case of those who receive them naturally. These measures, according to Dr. Cullen, are chiefly the following.

1. The choosing for the subject of inoculation persons otherwise free from disease, and not liable from their age or otherwise to any incidental disease.

2. The choosing that time of life which is most favourable to a mild disease.

3. The choosing for the practice a season most favourable to a mild disease.

4. The preparing the person to be inoculated, by enjoining abstinence from improper food for some time before inoculation.

5. The preparing the person, by giving mercurial and antimonial medicines.

6. The taking care at the time of inoculation to avoid intemperance, fear, or other circumstances which might aggravate the future disease.

7. After these preparations and precautions, the choosing a fit matter to be employed in inoculation, by taking it from a person of a sound constitution, and free from any disease, or suspicion of it; by taking it from a person who has had the small-pox of the most benign kind; and, lastly, by taking the matter from such person as soon as it has appeared in the pustules, either on the part inoculated, or on other parts of the body.

8. The introducing, by inoculation, but a small portion of the contagious matter.

9. After inoculation, the continuing a temperate diet, and the employment of mercurial and antimonial medicines, yet at the same time avoiding too frequent purging.

10. Both before and after inoculation, taking care to avoid external heat, either from the sun, artificial fires, warm chambers, much clothing, or being much in bed; and, on the contrary, exposing the person to a free and cool air.

11. Upon the appearance of the eruptive fever, the rendering that moderate by the employment of purgatives; by the use of cooling and antiseptic acids; and especially by exposing the person frequently to a cool, and even a cold air, at the same time giving freely of cold drink.

12. After the eruption, the continuing the application of cold air, and the use of laxatives, during the course of the disease, till the pustules are fully ripened.

On these measures Dr. Cullen observes, that, as the common infection may often seize persons under a diseased state, which may render the small-pox more violent, it is evident that inoculation must have a great advantage by avoiding such concurrence. But as the avoiding of this may in the mean time frequently leave persons exposed to the common infection, it is well worth while to enquire what are the diseased states which should restrain from the practice of inoculation. This is not yet sufficiently ascertained: for it hath been observed, that the small-pox has often occurred with a diseased state of the body, without being thereby rendered more violent; and it hath also been observed, that some diseases of the skin are equally innocent. Dr. Cullen is of opinion that they are diseases of the febrile kind, or such ailments as induce or aggravate a febrile state, that especially give the concurrence which is most dangerous with the small-pox. He is also of opinion, that though a person be in a diseased state, if that state be of uncertain nature and effect, and at the same time the small-pox is very common in the neighbourhood, so that it must be extremely difficult to guard against the common infection, it will always be safer to give the small-pox by inoculation than to leave the person to take them by the common infection.

Though inoculation has been practised with safety upon persons of all ages, yet there is reason to conclude, that adults are more liable to a violent disease than persons of younger years. At the same time it is observed, that children, in the time of their first dentition, are liable, from the irritation of that, to have the small-pox rendered more violent; and that infants, before the time of dentition, upon receiving the contagion of the small-pox, are liable to be afflicted with epileptic fits, which frequently prove fatal. Hence it is evident, that though circumstances may admit and approve of inoculation at any age, yet for the most part it will be advantageous to choose persons after the first dentition is over, and before the time of puberty. But, in large cities in particular, if the operation be delayed till after dentition, the patient must run many risks of accidental infection, and thus many will be cut off by the natural small-pox who might have been saved by more early inoculation. Accordingly, in towns especially, it is now the common practice to inoculate infants when only three or four months old; and indeed accidents so rarely happen, that it is almost impossible to conceive that greater success can be obtained at any other period of life.

The operation of inoculation may be performed at any season of the year; yet it is certain that the cold of winter may increase the inflammatory, and the heats of summer increase the putrescent, state of the small-pox, it is highly probable that inoculation may have some advantage from avoiding the extremes either of cold or heat.

As the use of animal-food may increase both the inflammatory and putrescent state of the human body, so it must render persons, in receiving the contagion of the small-pox, less secure against a violent disease; and therefore inoculation may derive some advantage by enjoining abstinence from animal-food for some time before the operation is performed: but Dr. Cullen is of opinion, that a shorter time is necessary than what is commonly prescribed.

Mercurial and antimonial preparations may have some effect in determining to a more free perspiration, and therefore may be of some use in preparing a person for the small-pox; but there are many observations which render their use doubtful. The quantity of both these medicines, particularly the antimony, commonly employed, is too inconsiderable to have any effect. Mercurials indeed have been often employed more freely; but even their salutary effects have not been evident, and they have sometimes been manifestly productive of mischief. It is therefore much to be doubted, whether inoculation really derives any benefit from these preparatory courses or not.

It has been often observed, in the case of almost all contagions, that cold, intemperance, fear, and some other circumstances, concurring with the application of the contagion, have greatly aggravated the future disease; it must undoubtedly be the same in the case of the small-pox: and it is certain that inoculation must derive a great advantage, perhaps its principal one, from avoiding the concurrences above mentioned.

It has commonly been supposed, that inoculation deserves some advantage from the choice of the matter employed in it; but it is very doubtful if any choice be here necessary, or can be of any benefit in determining the state of the disease. It is not indeed probable that there is any difference of contagion producing the small-pox; for there are innumerable instances of the contagion arising from a person who labours under the distinct small-pox producing the confluent kind, and the contrary. Since the practice of inoculation hath been introduced, it has also been observed, that the same variolous matter would in one person produce the distinct and in another the confluent small-pox. It is therefore highly probable, that the difference of the small-pox does not much depend upon any difference of the contagion, but upon some difference in the state of the persons to whom it is applied, or in the state of certain circumstances concurring with the application of the contagion.

Some have supposed, that inoculation has an advantage over the natural infection, by introducing only a small portion of contagious matter into the body; but this is by no means well ascertained. It is not known what quantity of contagion is introduced into the body by the common infection of the small-pox; and it

is probable the quantity is not great: nor, though it were larger than that thrown in by inoculation, is it certain what the effects would be. A certain quantity of ferment may be necessary to excite fermentation in a given mass; but when that quantity is given, the fermentation and assimilation are extended to the whole mass; and we do not find that a greater quantity than is just necessary, either increases the activity of the fermentation, or more certainly secures the assimilation of the whole. In the case of the small-pox, a considerable difference in the quantity of the contagion introduced hath not shewn any effects in modifying the disease.

Purging has the effect of diminishing the activity of the sanguiferous system, and of obviating the inflammatory state of it; and therefore it is probable, that the occasional use of cooling purgatives gives a considerable advantage to the practice of inoculation; and probably this is also obtained by diminishing the determination to the skin. It seems also probable, that mercurials and antimonials are useful only as they make part of the purging course.

It is a fact that the state of the small-pox depends very much upon the state of the eruptive fever, and particularly in avoiding the inflammatory state of the skin; and therefore it is also probable, that the measures taken for moderating the eruptive fever, and inflammatory state of the skin, are the greatest improvement which has been made in the practice of inoculation. The tendency of purging, and the use of acids to this purpose, is sufficiently obvious: and upon the same grounds we should suppose that blood-letting might be useful; but probably this has been omitted, and perhaps other remedies might be so, since we have found a more powerful and effectual one in the application of cold air and the use of cold drink.

It hath been the practice of inoculators to continue the use of purgatives and the application of cold air after the eruption; but it cannot be said to give any particular advantages to inoculation, and the employment of purgatives seems often to have led to an abuse. When the state of the eruption is determined, when the number of pustules is very small, and the fever has entirely ceased, the safety of the disease may be said to be ascertained, and further remedies absolutely superfluous; in such cases therefore the use of purgatives is unnecessary, and may be hurtful.

It remains now only to consider the treatment of the small-pox, when the symptoms are violent, as may sometimes happen, even after inoculation and every remedy and precaution have been used. The cause of this is not ascertained, but it seems to be a putrescent tendency of the fluids. When therefore, from the prevailing of small-pox as an epidemic, and more especially when it is known that a person not formerly affected with the disease has

been exposed to the infection, if such person should be attacked with the symptoms of fever, there can be little doubt that it is the fever of the small-pox, and therefore he is to be treated in every respect as if he had received the disease by inoculation. He is to be freely exposed to cool air, to be purged, and to have cooling acids given liberally. If these measures moderate the fever, nothing more is necessary; but if the nature of the fever be uncertain; or if, with suspicions of the small pox, the fever be violent, or even if, knowing the distemper to be the small-pox, the measures above mentioned do not moderate the fever sufficiently, venesection will be proper; and more especially if the person be an adult, of a plethoric habit, and accustomed to full living. In the same circumstances it will also be proper to give a vomit; which is useful in the beginning of all fevers, and especially in this, where a determination to the stomach appears by pain and spontaneous vomiting.

It frequently happens, especially in infants, that, during the eruptive fever of the small-pox, convulsions occur. Of these, if only one or two fits appear on the evening preceding the eruption, they give a prognostic of a mild disease, and require no remedy: but if they occur more early, are violent, and frequently repeated, they are very dangerous, and require a speedy remedy; and here bleeding and blistering are of no service, the only effectual medicine is an opiate given in a large dose.

These are the remedies necessary during the eruptive fever; and if, upon the eruption, the pustules on the face are distinct, and their number few, the disease requires no further remedies. But when, upon the eruption, the number of pimples on the face is considerable; when they are not distinct; and especially if, upon the fifth day, the fever does not suffer a considerable remission; the disease still requires a great deal of attention.

If, after the eruption, the fever shall still continue, the avoiding of heat and the continuing to expose the body to a cool air will still be proper. If the fever be considerable, with a full hard pulse, in an adult person, a bleeding will be necessary, and more certainly a cooling purgative, such as (No. 13. or 46.); but it will be seldom necessary to repeat the bleeding, as a loss of strength very soon comes on; but the repetition of a purgative, or the frequent use of laxative clysters (No. 34. or 89), is commonly advantageous.

When a loss of strength, with other marks of a putrescent tendency of the fluids, appears, the Peruvian bark must be given in substance, and in large quantity. In the same case, the use of acids and of nitre is advantageous, and commonly it is proper also to give wine very freely. (Vide Formulæ, No. 46. and 49.)

From the fifth day of the disease, throughout the whole course of it, it is proper to give an opiate (No. 9.) once or twice a-day; taking care at the same time to obviate costiveness, by purgatives or by laxative clysters. (Vide Formulæ, No. 105. and 34.) From the eighth to the eleventh day of a violent disease, it will be proper to lay on blisters successively on different parts of the body, and that without regard to the parts being covered with pustules. Blisters are also to be applied to the external fauces, in case of difficult deglutition, and viscid saliva and mucus, which are thrown out with difficulty, and at the same time that detergent gargles (No. 59. or 74.) are to be diligently used. During the whole course of this disease, when a considerable fever is present, antimonial medicines, in nauseating doses, have by some been alleged to be employed with advantage; and in this way they have often the effect of moving the belly. But the great distress which patients suffer from a state of constant nausea is hardly to be borne; and every advantage which can be had from this practice may be obtained by easier means. Where this method, however, is thought eligible, the following antimonial solution directed by Dr. Nankivel may be adopted:

(No. 159.) R Antimon. tartar. gr. v.

Aquæ fontis ℥vj

Syr. papav. errat. ʒj. Fiat Solutio. Detur cochl. minim. omni hora.

The dose, however, must be regulated according to the age of the patient and other circumstances of the case.

The remedies above mentioned are frequently proper from the fifth day till the suppuration be finished. But after that period the fever is sometimes continued and increased; or sometimes, where there was little or no fever before, a fever now arises and continues with considerable danger; this is called the *secondary fever*, and requires a particular treatment.

When the secondary fever follows the distinct small-pox, and the pulse is full and hard, the case is to be treated as an inflammatory affection, by bleeding and purging; but the secondary fever which follows the confluent kind is to be considered as a putrid disease, and bleeding is improper. Some purging may be necessary, but the remedies to be chiefly depended upon are the Peruvian bark and acids.

The following formula of Dr. Nankivel is very suitable for this purpose:

(No. 160.) R Cinchonæ flavæ in pulv. trit. ʒiiss.

Myrrhæ in pulv. trit. ʒfs.

Sp. vini. ten lbj. Digere et cola.

Detur cochl. j. (addendo acid. vitriol. dilut. gutt. x. ad xx) ter die.

Dr. Saunders recommends (No. 49.), or the following :
(No. 161.) R^o Cinchonæ flav. pulv. crass. ʒfs.

Rosar. rub. exsiccat. ʒij.

Aquæ ferventis ʒxij.

Macera in vase idoneo et liquorem cola.

R^o Infus. colat. ʒvij. adde,

Acid. vitriol. dilut. ʒj.

Syr. simpl. ʒfs.

Ut fiat Mistura cujus cyathum bibat quarta quaque horâ.

Sydenham has recommended to give small-beer and the *Sp. vitriol. æther.* freely in cases of great malignity; and in suppression of urine, to take the patient out of bed and expose him to cold air. Artificially prepared *oxygen gas*, however, seems to promise still greater benefits in such cases.

When the secondary fever first appears, whether after a distinct or confluent small-pox, it is useful to exhibit an antimonial (No. 159.) in such a manner as to produce slight vomiting. For avoiding the pits which frequently follow the small-pox, no method hitherto proposed seems to be sufficiently certain.

On the subject of *variolous inoculation*, Baron Dimsdale, a very celebrated writer, and more conversant than any other, perhaps, with the phenomena of the disease in that or the natural way, informs us, that were it left to his choice, he would decline inoculating children under two years old; because within that period they are exposed to all the dangers of dentition, fevers, fluxes, convulsions, and other accidents, sufficiently difficult in themselves to manage, in such tender subjects.

In regard to constitution, experience has proved that greater liberties may be taken than were formerly judged admissible. Persons afflicted with various chronic complaints, of scrophulous, scorbutic, arthritic habits; persons of unwieldy corpulency, and of intemperate, irregular lives; have all passed through this disease with as much facility as the most temperate, healthy, and regular. But those who labour under any acute or critical disease; or its effects, are obviously unfit and improper subjects. So likewise are those in whom are evident marks of corrosive acrimonious humours, or who have an evident debility of the whole frame from inanition or any other cause. All such require to be treated in a particular manner previous to the introduction of this disease. Constitutions disposed to frequent returns of intermit-tents, seem likewise justly exceptionable; especially as the preparatory regimen may in some habits increase this tendency. However, instances have occurred of severe ague-fits attacking persons between the insertion of the matter and the eruption of the small-pox, and even during maturation, when the Peruvian bark has been given liberally and with much success; the principal process, in the mean time, suffering no interruption.

Among the circumstances generally considered as more or less propitious to inoculation, the season of the year has been reckoned a matter of some importance. Spring and autumn have been generally recommended, as being the most temperate seasons; the cold of winter and the summer-heats having been judged unfavourable for this purpose. But Baron Dimisdale remarks, that experience does not justify those opinions; for according to the best observation he has been able to make, inoculated persons have generally had more pustules in spring than at any other time of the year; and epidemic diseases being commonly most frequent in autumn, especially fluxes, intermittents, and ulcerated fore throats (all which are liable to mix more or less with the small-pox), the autumn, upon this account, does not seem to be the most favourable season in general.

It is evident that, considering the indisputable benefits arising at all times to patients in the small-pox, from the free admission of fresh cool air and evacuations, we may safely inoculate at all seasons, provided care be taken to screen the patients as much as possible from heat in summer, and to prevent them from keeping themselves too warm and too much shut up, as they are naturally disposed to do, from the weather in winter. When seasons, however, are marked with any peculiar epidemics, of such a kind especially as may render a mild disease more untractable, it may perhaps be most prudent not to inoculate while such diseases are prevalent.

In directing the preparatory regimen, Baron Dimisdale principally aimed at the following points, viz. To reduce the patient, if in high health, to a lower and more secure state; to strengthen the constitution, if too low; to correct what appears vitiated; and to clear the stomach and bowels, as much as may be, from all crudities and their effects. With this view he orders such of his patients as constitute the first class above mentioned, and who are by much the majority, to live in the following manner: to abstain from all animal food, including broths, and likewise butter and cheese; from all fermented liquors, excepting small-beer, which is allowed sparingly; and from all spices, and whatever is endued with a manifest heating quality. The diet should consist of pudding, gruel, sago, milk, rice-milk, fruit-pies, greens, roots, and vegetables of any of the kinds in season, prepared or raw. Eggs, though not to be eaten alone, are allowed in puddings, and butter in pie-crust. The patients are to be careful that they do not eat such a quantity as to overload their stomachs, even of this kind of food. Tea, coffee, or chocolate, are permitted for breakfast, to those who choose or are accustomed to them.

In this manner they are directed to proceed about nine or ten days before the operation; during which period, at nearly equal distances, they are directed to take three doses of the following

powder, either made into pills or mixed with a little syrup or jelly, at bed-time, and a dose of Glauber's salts, dissolved in thin water-gruel, on the succeeding morning after the last powder.

The powder is composed in the following way :

(No. 162.) \mathcal{R} Calomel. gr. iij.

Pulv. e chel. gr. viij.

Antimon. tartaris. gr. $\frac{1}{10}$. Misce fiat Pulvis.

Instead of the latter article, Baron Dimisdale has sometimes substituted two grains of *precipitated sulphur of antimony*. In order to facilitate the division of the doses, a large quantity is prepared at once, and great care taken that the several ingredients be well mixed.

This quantity is usually sufficient for a healthy strong man; and the dose must be lessened for women or children, according to their age and strength, as well as for persons advanced in years.

The first dose is generally ordered at the commencement of the course; the second, three or four days after; and the third, about the eighth or ninth day. The Baron chooses to inoculate the day after the last dose has been taken. On the days of purging, broths are allowed, and the patients are desired to abstain from unprepared vegetables.

What has been said concerning the preparation, must be considered as proper only for the young or middle-aged, in a good state of health: but among those who are desirous of inoculation, are often found tender, delicate, and weakly women; men of bad stamina, valetudinarians by constitution, by illness, or intemperance; also aged persons, and children; and for all such a very different treatment must be directed. Here a milder course of medicine, rather of the alterative than purgative kind, is preferable; and in many instances, an indulgence in some good animal-food, with a glass or two of wine in case of lowness, is not only allowable, but necessary to support a proper degree of strength, especially in case of advanced age.

Children, whose bowels are often tender, and ought not to be ruffled by strong purges, yet require a mild mercurial, and bear it well. Besides emptying the bowels of crudities, it is a good security against worms and their effects, which sometimes produce very alarming and even fatal disorders.

Inattention to the particular state of health of those who are entering upon the preparatory course, has been productive of great mischief. This is chiefly observable respecting the indiscreet use of mercurials, by which a salivation has often been raised, to the risk of impairing good constitutions, and the ruin of such as were previously weak and infirm. The distinctions and treatment necessary, will be obvious to those who are acquainted with the animal economy and medical practice.

The time of menstruation has generally been the guide in re-

spect to the inoculation of women, that the whole of the disease may be over within the menstrual period. Baron Dimisdale informs us, that he observes this rule, when he can choose his time without any inconvenience, and he inoculates soon after the evacuation ceases; though he has no reason to decline performing the operation at any time.

Women with child have likewise been inoculated, and done well; but the state of pregnancy seems unfavourable to the process, which ought therefore not to be hazarded without some urgent reason. Baron Dimisdale has not inoculated any woman whom he knew to be pregnant: but on some who concealed their pregnancy he has performed the operation, without producing a miscarriage; the hope of which event, he suspects, had rendered them desirous of the process. One of those had a child born nine weeks after inoculation, at the full time, with distinct marks of the disease, though the mother had very few pustules.

Several cases of women who had the small-pox during pregnancy, with an account of the manner in which the children appeared to have been affected, appear in the Memoirs of the Medical Society of London. The author, Mr. Kite of Gravesend, prefaces them with the following remarks: "As the most eminent physiologists are unsettled in their opinion respecting the operation of the small-pox on the fœtus in utero, and as but a small number of cases have been published of women who have undergone that disease during pregnancy, I apprehend the relation of a few instances, which occurred under my own immediate observation, and likewise of some which were communicated to me, will not be unacceptable to the society; and as nothing can be more essentially necessary for the elucidation of real circumstances, than a large collection of facts, I have subjoined a concise account of all those cases which have occurred in the course of my reading."

Mr. Kite next relates the cases of children which are said to have been infected with the small-pox *in utero*. The first, Mr. Wood, surgeon to the General Hospital in Chatham barracks, communicated.

Case 1.—"Several years since, when the Essex militia were in Chatham barracks, I was called to see a woman who was dead of the small-pox: on my arrival I found the woman had been dead somewhat above two hours; the small-pox were of the confluent kind, and they appeared to be about the turn. She was in the ninth month of her pregnancy, and as I had no doubt of her death, I opened the abdomen and uterus, with the view of saving the child. The child, however, was dead; but it had numerous pustules all over the face, body, and extremities, which, in my opinion, were most evidently and undoubtedly variolous eruptions.

The pustules appeared of the same size as they usually are about the fourth or fifth day."

Mr. Robert Sargeant, of Plymouth, communicates the following in a letter to Mr. Andrews, of Brompton :

Case 2.—“ On the 6th day of December, 1782, I inoculated Mrs. Lay of Plymouth, for the small-pox, who was (unknown to me) in the seventh month of her pregnancy. She had the disease favourably, and was delivered of a boy the 6th of January following, who had pustules dispersed all over his body. The pustules were very numerous, and exactly resembled variolous eruptions which were in an early stage of maturation; and they appeared to advance until his death, which happened two days after. I have no more doubt that the eruptions were variolous than I have of my own existence.”

Mr. Kite next cites various authorities, in which we shall follow him.

Mr. Derham relates, that a woman with child being pretty well recovered from a mild sort of the small-pox, on the 3d of September took a purge, which worked so violently, that she fell into faintings and convulsions. She was not delivered till the 8th of September. The child appeared to the midwife to have been dead five or six days; its belly was burst, the bowels came out, and the whole body tended to putrefaction. The child was so very full of the small-pox, that hardly a pin's head could be put between the blisters, which were very plump and full of matter, like the pustules of an adult, when the small-pox are at the height, only a little depressed in the middle. *Ph. Tr.* No. 337. p. 165.

Bartholin affirms, as an eye witness, that a poor woman, ill of the small-pox, was delivered of a child, whose tender body had as many pocks on it as the mother's, and who died soon after the birth, as the mother herself did, three days after, of the disorder. *Van Swieten*, XV. p. 16.

A woman, big with child, having herself long ago had the small-pox, very assiduously nursed a maid servant during the whole process of this disease. At the proper time she brought forth a healthy female child, in whose skin, Dr. Watson asserted, that he discovered evident marks of the small-pox, which she must have gone through in the womb; and the physician pronounced that this child would be free from future infection. After four years her brother was inoculated; and Dr. Watson obtained permission of the parents to try the same experiment on the girl. The operation was performed on both children in the same manner, and the pus used in both cases was taken from the same patient. The event, however, was different; for the boy had the regular eruption and got well, but the girl's did not inflame or suppurate. On the tenth day from the insertion of the matter, she turned

pale suddenly, was languid for two days, and afterwards was very well. In the neighbourhood of the incision there appeared a pustule, like those pustules that we sometimes observe in persons who, having had the disease, attend patients ill of the small-pox. *Ph. Tr. V. 46. p. 235.*

Mauriceau affirms, that he had heard his father and mother often say, that he came into the world with five or six pocks upon him: it seems a brother of his, six years old, whom his mother had anxiously attended day and night, during the small-pox, had died of it on the seventh day, and our author was born the next. *Van Swieten, XV. p. 17.*

Dr. Mead says, that when a woman in the small-pox suffers abortion, the child most commonly comes into the world with the distemper upon it, but not always. When it does not, the disease generally breaks out a few days after delivery; in proof of which he mentions the following case:

“A lady of quality was, in the seventh month of her pregnancy, seized with so malignant a sort of the confluent small-pox, that there was no appearance of any one favourable symptom. In this condition she was, on the eleventh day of the distemper, delivered of a son, who brought no marks of the infection into the world, and she died on the fourteenth day. But, in the morning of the fourth day following, the infant was seized with convulsions, the forerunners of the eruption, which appeared the same day, and he died in the evening.

“But in case there is no miscarriage, the child will be free from the disease during his whole life, unless he happens to be born before the pustules were come to maturity.”

The infant in the womb sometimes catches the distemper, without the mother being affected, as Dr. Mead proves by this remarkable instance:

“A certain woman, who had formerly had the small-pox, and was now near her reckoning, attended her husband in the distemper. She went her full time, and was delivered of a dead child. It may be needless to observe, that she did not catch it on this occasion, but the dead body of the infant was a horrid sight, being all covered with the pustules; a manifest sign that it died of the disease, before it was brought into the world.” *Mead's Works, 8vo. pp. 252 and 253.*

Mrs. Ford, who looked upon herself in the sixth month of her pregnancy, on the 5th of December was seized with the eruptive fever of the small-pox. On the 8th they appeared, proved of a mild kind, moderate in quantity, and she passed through the disease in great spirits. On the 31st of December she was delivered, that is, twenty-three days after the appearance of the eruptions. The body of the child was covered with an eruption, and several of the pustules were filled with matter. Dr. Hunter, Dr.

Leake, Mr. John Hunter, Mr. Cruickshanks, and Mr. Falconer, all concurred in opinion that the eruption on the child was the small-pox. *Pb. Tr. V. 70. p. 28.*

“Mr. Hunter having paid particular attention to this case,” says Mr. Kite, “I shall subjoin some of his reflections upon it.

“In the first place, he observes, there can be no doubt but the mother had the small-pox, and that it went through its regular stages.

“Secondly, the distance of time when she had the small-pox before delivery, joined with the stage of the disease in which the child was born, perfectly agrees with the possibility of the infection being caught from the mother.

“Thirdly, the external appearance of the pustules was perfectly that of the small-pox.

“Not satisfied with these leading circumstances, and external appearances being so much in favour of their being the variolous eruption, Mr. Hunter observes, ‘they were not an absolute proof of its being the genuine small-pox,’ he therefore proceeds to investigate ‘how far all the circumstances correspond or are similar to the true small-pox.’

“He observes that, in the present case, we can have no positive information respecting this child having the fever which precedes the small-pox, or the progress and declension of the eruption, which, in the small-pox, is pretty regular, although both are presumable; but even these, he justly observes, are not absolute proofs of the small-pox.

“After mentioning these uncertain signs, he states what he conceives to be the pure characteristic of the small-pox, which is, *‘the formation of a slough, or a part becoming dead by the variolous inflammation.’*

“Applying this to the case under consideration, Mr. Hunter observes, ‘In the present case, besides the leading circumstances, mentioned in the case of the mother, corresponding with the appearances of the child, and the external appearances themselves, we have in the fullest sense the third and real, or principal character of the small-pox, viz. the slough in every pustule; from all which I think we may conclude, that the child had caught the small-pox in the womb; or at least, a disease, the effects of which were similar to no other known disease.’”

As Mr. Hunter, in opening the bodies of those who had either died of, or died while under, the small-pox, had always examined carefully to see whether any internal cavity, such as the *œsophagus, trachea, stomach, intestines, pleura, peritoneum, &c.* had eruptions upon them or not, and never finding any in any of those cavities, he saw the most favourable opportunity of clearing up this point in the present case. He, therefore, very attentively examined most of the internal cavities of this child, “but ob-

served nothing uncommon." In this respect likewise, therefore, the present case exactly agrees with the true small-pox.

Mr. Kite here cites the following authorities :

Dr. Wright relates the case of a negro woman, about twenty-two years of age, and big with child. The eruptive fever was slight, the small-pox were few, distinct, and large, and she went through the disease with very little trouble, till on the fourteenth day from the eruption, she was attacked with a fever, which lasted only a few hours. She was, however, taken in labour the same day, and delivered of a female child, with the small-pox on her whole body, head, and extremities. They were distinct and very large, such as they commonly appear on the eighth or ninth day in favourable cases. The infant died the third day after she was born. *Ph. Tr. V.*

A woman who had been inoculated, had a child born nine weeks after inoculation, at the full time, with distinct marks of the disease, though the mother had very few eruptions. *Disposal on Inoculation, p. 22.*

Dr. Bland relates, from the authority of a midwife on whom he can depend, that in July, 1781, Mary Gatton, of Princes-street, Westminster, was attacked with the small-pox. She was then in the seventh month of her pregnancy. The disease proved to be of the confluent kind, and was attended with considerable fever. Six days after the turn of the pock, or about eighteen from the first attack of the fever, she was taken in labour and delivered of a child which seemed to have been dead five or six days. Its body was covered with confluent small-pox. The pustules were white and full of matter, and, from their size, seemed nearly to have attained their maturity. *Medical Journal, V. 2. p. 205.*

Mr. Roberts inoculated Mary Sticks, near the ninth month of her pregnancy, on the 14th of November, 1783. On the 21st the eruptive fever commenced; and the small-pox, which was not very numerous, came out on the third, on the 28th she fell into labour, and on the 29th was delivered of a dead child. The body of the child was covered with the small-pox, the bases of which were in a gangrenous state. *Medical Journal, V. 5. p. 400.*

Mr. Jenner inoculated Jane Parker, aged twenty-seven, on the 25th of May, 1785, being then in the eighth month of her pregnancy. On the 1st of June the eruptive fever commenced. The eruptions (few in number) appeared on the third day. She recovered and went about her business as usual. On the 18th of July she felt symptoms that convinced him the child was dead, and on the 23d she was delivered of a dead child, with about thirty large pustules on its body, the bases of which were in a gangrenous state. *Medical Journal, V. 7. p. 165.*

Mrs. Eve, then in the eighth month of her pregnancy, was seized with the small-pox; the pustules were distinct, yet uncommonly numerous. On the eleventh day they began to turn; and on the twenty-second day her labour took place, which, according to her reckoning, was a fortnight before the regular period.

The child at the time of its birth was covered with distinct pustules all over the body; they did not appear to be full of matter till three days after, at which time some pus was taken on a lancet, with which a child was, on the 2d of December, inoculated on both arms. The arms inflamed, and the 11th of December the child sickened, and was affected with all the symptoms which usually precede the eruption. On the 12th the sickness and fever abated, the pustules of the distinct sort of small-pox made their appearance, and the child having regularly gone through the several stages of the distemper, was perfectly well in three weeks.

Mr. Lynn thinks it proper to observe, that Mr. Findlay and Mr. Holladay, surgeons, were present both at the taking of the matter and at the subsequent inoculation of the child. *Singular case of a lady, by W. Lynn.*

Having proceeded thus far on the side of the affirmative, Mr. Kite candidly adduces facts to shew, that if variolous infection in utero be a *possible*, it is at least by no means an uniform occurrence. He relates the following cases in which it appears the children *were not infected with the small-pox in utero*:

Case 1.—“Mrs. Squires of Northfleet, in the last month of her pregnancy, in the year 1780, was on the Thursday or Friday taken with fever and its usual attendants; on the Saturday she was delivered. About two hours after delivery the small-pox appeared, was very full and of the coherent kind. She died on the Friday. The child died the Tuesday week following, having lived nine days; it died unexpectedly. How long it was ill, or in what manner it was affected, we were unable to learn; all the persons, however, who were present agree, that there was not the least appearance of any eruption; it is not impossible, however, but it might have died in one of those fits which frequently precede the eruption of the small-pox.

Case 2.—“Mrs. Clifton, of the parish of Northfleet, some time in the year 1781, was seized with a very mild sort of the small-pox, in the seventh month of her pregnancy. She was delivered at the usual time, and the child was very healthy, it had a few small spots on it, but the midwife who attended said they had not the least resemblance to the small-pox.

“This child was inoculated in May, 1786; every stage of the disease was distinctly marked; it had about twenty pustules. One or two children inoculated with matter from his arm, was infected as usual.

Case 3.—“ Mrs. Lee, of the parish of Northfleet, in the eighth month of her pregnancy, was, in July, 1780, attacked with the small-pox ; she had the eruption extremely full, and nearly as bad as Mr. Kite remembers to have seen ; she however recovered, but it accelerated her delivery about a month. There was not the least appearance of the small-pox, or any other eruption, on the child.

“ This girl was inoculated in November, 1787 ; she had about twenty eruptions, but being of a delicate constitution, and having lived too low, they did not suppurate ; the arm, however, had quite the usual appearance.

Case 4.—“ Mr. K. was informed by Mr. Thompson of Rochester, that he attended a lady in the distinct small-pox, who was about five months advanced in her pregnancy. The child was inoculated some time after delivery, and had the small-pox.

“ It may not be improper to make mention of the following fact. Mrs. Colyer, of Southfleet, had the measles just one week before she was delivered of a daughter. This infant had no appearance of the disease when born, and it was generally expected she never would have it ; but some years after the measles were very frequent, and she, among many others, contracted the disease.”

The following additional testimonies are collected from books by Mr. Kite :

A lady of quality, whom Boerhaave had attended with good success, in a very bad confluent small-pox, and in the sixth month of her pregnancy, was delivered when her time was up, of a healthy boy, on whom not the least trace of the disorder could be found. *Van Sweiten, vol. XV. p. 17.*

A woman was taken ill of the small-pox, in the fourth month of her pregnancy, from which she apparently narrowly escaped, and, when her time was out, was delivered of a healthy and pretty stout boy, on which there is no mention made of any eruptions, or marks of them having appeared. *Van Swieten, vol. XV. p. 212.*

A woman was delivered of a male child at the ordinary time, herself as well as the infant being in good health, notwithstanding that, in the fifth month of her pregnancy, she had the small-pox in a severe manner, of which disease, however, there did not appear on the body of the child any mark which could testify that he had been infected in the womb. *Medic. Tr. vol. II. p. 317.*

Sir G. Baker relates, that two pregnant women having been inoculated, had the small-pox in a favourable manner, and afterwards brought forth their children perfectly healthy at the usual time. Both these children, when they had attained the age of

about three years, were inoculated with effect, and had a moderate eruption. *Medical Transactions, vol. II. p. 314.*

Sir G. Baker mentions a case, which fell under the observation of Dr. Clarke of Epsom. A woman, towards the end of her pregnancy, had the small-pox, from which she narrowly escaped. Five weeks after the crisis, she was delivered of a healthy female child, who, having numerous marks on her skin, was judged, by all who saw her, to have undergone the same distemper before her birth. However, at the end of twelve months, she had the small-pox in a very severe manner. Both the mother and child were lately living at Epsom. *Mr. Hunter's Paper, Phil. Tr.*

Mr. Hunter thought the eruption so like the small-pox, that he could hardly doubt; but said, that in all other cases of the same kind, that he had met with, the child in utero had escaped the infection. *Mr. Hunter's Account, Ph. Tr. vol. LXX.*

"The infection from an infected mother is conceivable and common enough," yet no particular case is brought forward in support of this opinion. In a note, however, he says, "yet this is not constantly the case; an ingenious anatomist lately assured me, he opened the body of a woman, far advanced in her pregnancy, who died of the small-pox, without imparting the least visible infection to her fruit." *Kirkpatrick, p. 21.*

Dr. Dimsdale has since his first publication, seen instances in which two pregnant women were inoculated, and each had a plentiful eruption of the small-pox; three or four years afterwards he inoculated the children, and both had a tolerable number of pustules. *Med. Journal, vol. II. p. 157.*

Mr. Roberts relates that Eliz. Boon, in the eighth month of her pregnancy, was inoculated on the 15th of November, 1784. On the 20th the eruption appeared, and the fever did not abate. On the 27th her pains came on, and she was in a few hours delivered of a living child. There was not the least trace of eruptions on any part of the body of the child, which died in about ten days, with a complaint in its bowels. *Medical Journal, vol. V. p. 400.*

Mary Jeffry, in the eighth month of her pregnancy, was inoculated on the same day with Eliz. Boon; she passed through all the stages of the disease, with as little disturbance as any person ever could; and, three weeks afterwards, was delivered of a living child, without any appearance of the disease upon it. *The same.*

Mr. Jenner relates that Mary Ellis, aged forty-two, in the ninth month of her pregnancy, was inoculated May 25th, 1785. On the first of June the eruptive fever came on, together with pains resembling those of labour. She had few eruptions, and did well. On the 10th of June she fell down stairs; and this accident

brought on labour, and she was delivered of a dead child, which had no appearance of eruption on any part of its body.

(It should seem that this child might have died before it could have received the infection, or at least before the eruptions could have made their appearance.) *Medical Journal, vol. VII. p. 165.*

Rebecca Gill, in the ninth month of her pregnancy, was inoculated June 6th. On the thirteenth the eruptive fever commenced, and on the 16th the eruption appeared. On the 18th she was delivered of a living child, without any appearance of disease upon it. *The same.*

M. Twining, aged thirty-eight, was inoculated July 1st, in the fifth month of her pregnancy; she had the disease favourably, was delivered of a living child, at the end of the ninth month, without any appearance of disease upon it. *The same.*

"That the animal economy," says Mr. Kite, "should not observe precisely the same law, under the same circumstances, has excited the surprise of many attentive observers. Much might be added to what has already been written on this interesting subject, at present, however, I shall content myself with stating a few circumstances that occurred under my own observation, which, although they do not by any means entirely clear up the difficulty, yet, I am of opinion, may assist in explaining why a woman, in the small-pox, so seldom communicates the infection to the fœtus in utero.

"Some time since, I had occasion frequently to observe, that *very young children* had been repeatedly inoculated, and for several weeks constantly exposed to the worst kind of natural small-pox, without any effect. Soon after, the measles became unusually rife, of a putrid nature, and much more contagious than I ever observed it before or since: here again I attended in several families, where the *young infants* (particularly when under two months) were the *only* part of the family that escaped the disease, although exposed a considerable time to the infectious air, and lying all the night close to other children passing through every stage of the complaint, and, consequently, inhaling into their lungs the very essence of infection; nay, I have been informed of more than one instance, where, in addition, the mother had the disease, and the child (although constantly in her arms, breathing the air from her lungs reeking with putrid particles, and sucking the milk, impregnated strongly, as we should think, with the disease) has for some months withstood the infection!

"The perpetual repetition of what I have just related, very much surprised me; and the subject of this paper being about that time much in my mind, I was struck with the similarity of the circumstances, and concluded, that nature, for the best and

wisest purposes, had ordained, that very young infants should be so *extremely unsusceptible* of these diseases, which occasion such havock among those who are older, even when they seem to have the advantage on their side of health, strength, and a vigorous constitution. To me, I acknowledge, the appearances in favour of such an idea are very strong; but whether this is really the case, and whether others have observed the same general exemption of very young infants, future observation may determine; if, however, it should generally be found to be so, it may, upon the same principle (that is, the younger, the weaker the infant is, the less of life it possesses, the less susceptibility it has also for these complaints), be explained, why the foetus in utero so seldom is affected with the small-pox."—To return now to our subject:

The manner of inserting the variolous matter into the skin, as commonly practised in this country, is too well known to require a particular description. It is best to inoculate with *fluid* matter taken immediately from the pustule, to make two incisions nearly close together, and to pass the lancet so nicely under the cuticle, that very few red globules of the blood can issue from the scratch. When performed with a due attention to these circumstances, every benefit will be obtained, and some inconveniences, particularly that serious one of glandular imposthumation, will be avoided.

It is of no consequence whether the infecting matter be taken from the natural or inoculated small-pox; nor whether before, or at the crisis of, the disease. It is generally supposed, that the small-pox is not infectious till after the matter has acquired a certain degree of maturity; but it appears very clearly, that so soon as any moisture can be taken from the infected part of an inoculated patient, previous to the appearance of any pustules, and even previous to the eruptive fever, this moisture is capable of communicating the small-pox with the utmost certainty. Baron Dimisdale has taken a clear fluid from the elevated pellicle on the incised part, even so early as the fourth day after the operation; and has at other times used matter fully digested at the crisis, with equal success. In general, however, he preferred taking the matter for infection during the eruptive fever, as he supposed it at that time to have its utmost activity. In all cases, when matter is taken from an inoculated person, it should be from the place where it was inserted.

A due attention to the progress of infection, discoverable by the part where the operation was performed, is a necessary circumstance; because a just prognostic may thence be sometimes formed. The day after the operation, though the inoculation should take effect, little alteration is discoverable. On the second day, if the part be viewed with a lens, there generally appears a kind of orange-coloured stain about the incision, and the surrounding skin seems to contract. At this time Baron Dimisdale usually gave the

following medicine at going to bed, either mixed with a little animal jelly, or made into a pill with syrup.

(No. 163.) \mathcal{R} Calomel. præp.

Pulv. e Chel. aa gr. iij.

Antim. tartar. gr. $\frac{1}{15}$.

Misce fiat Pulvis.

A quantity of this medicine should be carefully prepared at once, in order to make the division more exact.

On the fourth or fifth day, upon applying the finger, a hardness is perceptible to the touch. The patient feels an itching on the part, which appears slightly inflamed; and under a kind of vesication is seen a little clear fluid, the part resembling a superficial burn. About the sixth, most commonly some pain and stiffness is felt in the axilla; a circumstance which not only foretels the near approach of the eruptive symptoms, but is a sign of a favourable progress of the disease. Sometimes on the seventh, oftener on the eighth day, symptoms of the eruptive fever appear; such as slight remitting pains in the head and back, succeeded by transient shiverings and alternate heats, which continue in a greater or less degree till the eruption be perfected. At this time also it is usual for the patient to complain of a very disagreeable taste in his mouth, the breath is always fetid, and there ensues a smell peculiar to the variolous eruptive fever.

The inflammation in the arm at this time spreads fast; and, upon viewing it with a good glass, the incision for the most part appears surrounded with an infinite number of small confluent pustules, which increase in size and extent as the disease advances. On the tenth or eleventh day, a circular or oval efflorescence is usually discovered surrounding the incision, and extending sometimes near half round the arm, but more frequently to about the size of a shilling; and being under the cuticle, is smooth to the touch and not painful. This appearance also is favourable. It accompanies eruption; every disagreeable symptom ceases; and at the same time it certainly indicates the whole affair to be over, the pain and stiffness in the axilla also going off.

The feverish symptoms are for the most part so mild, as seldom to require any assistance except a repetition of the same medicine that was directed on the second night after the operation; and next morning the following laxative should be given, to procure three or four stools.

(No. 164.) \mathcal{R} Infus. sennæ \mathfrak{z} ij.

Mannæ \mathfrak{z} ss.

Tinct. sennæ \mathfrak{z} ij.

Misce fiat Haustus.

This should be given as soon as the eruptive symptoms are perceivable, if they seem to indicate any uncommon degree of vehemence.

The cool method of treating inoculated patients *during the eruptive fever*, is too generally known and of too acknowledged importance to be insisted on here.

Instead of the patient being confined to his bed or his room, when the symptoms of the eruptive fever come on, he should be directed, as soon as the purging medicine has operated, to keep abroad, as much as he can bear, in the open air, be it ever so cold; always taking care not to stand still, but to walk about moderately while abroad. He may also, if thirsty, drink cold water. In the few instances where the symptoms of eruption have run very high, the patients are averse to any motion, and fearing the cold as the greatest evil; yet when, under those circumstances, we persuade them to rise out of bed, and go out of doors, and to drink as much cold water as they choose, they will not suffer in the least: on the contrary, after being prevailed on to comply with those directions, their spirits will revive, and they will feel an inclination for nourishment, rest well, and the fever be entirely extinguished.

But though a cool regimen during the eruptive fever is now almost universally adopted; like other useful remedies, it has not unfrequently been abused. Practitioners ought never to forget, that inoculated patients are not, more than the rest of the human species, exempted from injuries from cold, which is unquestionably a powerful cause of disease. Unless, therefore, in cases where very considerable morbid heat is induced by the eruptive fever, by which a temporary defence is unquestionably afforded against the action of external cold, the bad effects which may result from it are never to be overlooked. And there is even reason to believe, that the disease is more moderated by the action of *pure and free* air than by cold, since inoculation is performed with very great success even in the warmest seasons and situations of warm climates.

In general, the complaints in this state are very moderate, and attended with so little illness that the patient eats and sleeps well the whole time. A few pustules appear, sometimes equally disposed; sometimes the inflammations on the arms spread, and are surrounded with a few pustules, which gradually advance to maturity; during which time, for the most part, the eruption proceeds kindly, and there is much more difficulty to restrain patients within due bounds, and prevent their mixing with the public, thereby spreading the infection, than there was at first to prevail upon them to go abroad. During this time medicine is seldom wanted; the coolest air seems the best cordial; and if any uncommon languor happens, a better diet, or a glass of wine, is allowed in the day, or some white-wine whey at bed-time; which are indeed at any time allowed to tender, aged, or weakly persons.

Those who have the disease in the slight manner first described,

viz. without any appearance of eruption but on the inoculated part, are soon permitted to go about their usual affairs: and many instances have happened of very industrious poor men, who have immediately returned to their daily labour, with a caution not to intermix with those who have not had the distemper, for fear of spreading it; and with injunctions to take, two or three times, of the powders already directed, or as many doses of Glauber's salts. Those who have the disease in a greater degree, are confined somewhat longer; and, if there be the least disposition to costiveness, a very mild laxative is now and then exhibited; as the progress to maturity appears rather to be advanced than retarded by such means.

When the maturation is completed, and there is nothing farther to fear from the disease, if an abstemious course has been observed, patients should return to their ordinary diet, with much caution and restraint upon their appetites, both in respect of food and fermented liquors.

It is not often that we are under the necessity of making any application to the part where the insertion of the variolous matter was made. It most commonly heals up, and is covered with a scab, about the time when, in a natural way, all the small-pox would have been dried up. But in some cases the incisions continue to discharge a purulent matter a longer time. In these instances it is sufficient to cover the part with the white cerate, or any other mild emplastic substance, which may at once prevent the linen from adhering to the sore, and defend it from the air. As in some cases the part remains unhealed from a peculiar cause in the habit, it will be necessary to give proper alteratives, as particular exigencies may require.

After describing the usual progress of the small-pox from inoculation, Baron Dimsdale remarks that there are frequent deviations from this course, which may embarrass an inexperienced practitioner, and create a real difficulty, as well as apprehensions of danger. He therefore proceeds to relate the means for removing those symptoms, and the doubts respecting the event.

The symptom he first notices, and which, though it very rarely happens, sometimes gives much trouble, is great sickness, accompanied with vomiting, in the eruptive state of the disease. For this complaint it is always necessary in the first place to clear the stomach; which may be effected, either by ordering the patient to drink plentifully of warm liquids to promote vomiting; or perhaps more properly, by giving to an adult one grain of tartarised antimony, mixed with ten grains of compound powder of crabs'-claws; taking care to diminish the dose for very young and weak subjects.

This usually throws off some bilious matter by vomit, sometimes procures stools, or occasions a moderate sweat, and gene-

tally administers relief. If, however, no stools should follow from this medicine, and the sickness should remain, a gentle laxative almost certainly procures a respite, and the appearance of the eruption entirely removes the complaint.

Another deviation of yet greater consequence, which sometimes happens towards the time of the eruption, and is often, though not always, accompanied with great sickness, is an erysipelatous efflorescence. If this shews itself on the skin partially, and here and there in patches, it is not very alarming, and soon wears off. But sometimes the whole surface of the body is covered with a rash intimately mixed with the variolous eruption, and so much resembling the most malignant kind of confluent small-pox as scarcely to be distinguished from it. In some such cases, accompanied with petechiæ and livid spots, Baron Dimsdale has been much alarmed; not being able by inspection only, though assisted by glasses, to determine whether what he saw was an inoffensive rash, or tokens of the greatest malignity. Very strict attention, however, did enable him to distinguish the difference clearly; and for assisting others in such a discrimination, he makes the following remarks.

The real and essential difference is to be gathered from the concomitant symptoms. In the erysipelatous or variolous rash, there is not so much fever, nor is the restlessness or pain of the head or loins so considerable, neither is there that general prostration of strength; all which are usual attendants on a confluent small-pox, especially when accompanied with such putrid appearances. Besides, upon a careful examination, there may sometimes be discerned a few distinct pustules, larger than the rest, mixed with the rash, which are the real small-pox. In those cases the patients are ordered to refrain from cold water, or any thing cold; and to keep within doors, but not in bed. If any sickness yet remains, a little white-wine whey, or other temperate cordial, is advised; and this method has been so generally successful, as to prevent any alarming complaint. After two or three days, the skin changes from a florid to a dusky colour, a few distinct pustules remain, and advance properly to maturation, without any farther trouble ensuing from this formidable appearance.

This rash has often been mistaken for the confluence it so much resembles; and has afforded occasion for some practitioners, either ignorantly or disingenuously, to pretend, that, after a very copious eruption of the confluent small-pox, they can by a specific medicine discharge the greater part of the pustules, leaving only as many distinct ones as may satisfy the patient that he has the disease.

Baron Dimsdale informs us, that rashes of the kind above described frequently happen during the preparation (whether owing to the regimen, or medicine, or both, he does not determine), and

cause the operation to be postponed. But he has observed, that in such cases they are apt to return at the time of the eruption of the small-pox.

In general, as has been already said, the symptoms which precede eruption commence at the end of the seventh or on the eighth day inclusive from the operation; but it often happens that they appear much sooner, and sometimes much later, than this period. Baron Dimsdale has seen some cases in which the disease has come on so suddenly after infection, and with so little complaint or uneasiness, that the whole affair has been terminated, purges taken, and the patient returned home perfectly well, in a week; before others, inoculated at the same time, from the same patient, and under the same circumstances, have begun to complain.

In this case, the inoculated part shews early certain marks of infection, sometimes on the very next day, or the day after, when the incision will often appear considerably inflamed and elevated. The patient about this time frequently makes some of the following complaints, viz. chillness, itchings, and slight pricking pains in the part, and sometimes on the shoulder; giddiness, drowsiness, and a slight head-ach, sometimes attended with a feverish heat, but often without any. The account which patients themselves give of their feelings is, in some, as if they had drank too much, and in others, as if they had caught a cold. Those complaints seldom last twenty-four hours, often not so long, and with frequent intermissions; never, so far as our author remembers, rising to a degree that requires confinement. During the continuance of those complaints, the inflammation of the arm advances apace, and feels hard to the touch: but upon their wearing off, the inflamed appearances gradually diminish, and the part dries to a common small scab; the skin, that was before red, turns livid, and the disease entirely vanishes. In some instances, those symptoms attack much later; even on the seventh or eighth day, when an eruption might be expected in consequence of them, yet none appears; but the arm gets well very soon, and the disease is at an end.

In this irregular sort of the disorder there have, however, been some examples where a few eruptions have appeared, and probably in consequence of the inoculation: yet the pustules have not looked like the true small-pox, neither have they matured like them, nor lasted longer than three days; about which time, for the most part, they have dried away.

When this irregular kind of disease first occurred in Baron Dimsdale's practice, he was in doubt whether the patients were quite secure from any future attacks of the distemper. In order to be satisfied of this point, he inoculated them a second time, causing them to associate with persons in every stage of the disease, and to try all other means of catching the infection. This

méthod has been practised with the generality of such patients ever since, yet without a single instance of its producing any disorder. Baron Dimisdale, therefore, then made no scruple of pronouncing them perfectly safe : and experience had enabled him to foretel, for the most part, in two or three days after the operation, whether the disease would pass in this slight manner.

Upon the second inoculation, however, the incised parts are uncommonly inflamed for a day or two, just in the same manner as has in numerous instances been observed, as well in those who, though certain of having had the small-pox in the natural way, have submitted to inoculation for the sake of experiment, as in others, who, being doubtful whether they have had the disease or not, have been inoculated in order to be satisfied. But in all such cases, the parts soon became well ; nor did any of those appearances which have been described as the constant attendants on inoculation, as pain in the head, giddiness, marks of infection in the arm, &c. ensue. Neither can those appearances ever be produced upon a person who has had the small-pox before, either in the natural way or by inoculation.

Another irregularity deserving notice is, that sometimes upon the abatement of the fever and other symptoms, after the appearance of several pustules, and when the eruptive stage of the disease seems completed, it nevertheless happens that fresh eruptions come out, and continue doing so daily, for four, five, or even six days successively ; preceded sometimes by a slight pain in the head, though more frequently they appear without any new disturbance. Those are generally few, of short duration, and seldom come to maturity. Baron Dimisdale, however, has seen four cases, in which, after a cessation of complaints, and an appearance of few pustules, the eruptive stage of the disease was thought to be over, yet in two or three days a fresh fit of fever has attacked the patients, and after a short illness a quantity of new pustules has broke out far exceeding the first number, and those remained and matured completely.

Some of the Baron's own patients, and, as he has been credibly informed, those of other inoculators, have had considerable eruptions of this kind after they returned home ; which have probably given occasion for the reports of several having had the disease in the natural way after inoculation. But in confirmation that those reports are ill-grounded, he observes, that in all the cases of this sort which have occurred in his own practice, or, as far as he can learn, in that of others, the second or latter crop of pustules has always happened within the time usually allowed for the progress of the small-pox from inoculation ; before the inflammation on the arm has ceased, and sooner than we can suppose them to have been produced by infection received in the natural way. When this has happened, it has been to persons in whom,

after a slight eruption and abatement of symptoms, the disease has prematurely been judged to be quite over, and they have therefore been permitted to return to their families.

An appearance, more alarming and more dangerous than any of those which have already been taken notice of, is the occurrence of epileptic fits. For although it has been remarked, that these are often the forerunners of a mild disease, both in cases of accidental and likewise of intentional contagion; yet it is undeniable, that in not a few instances they have of themselves proved fatal. Wherever, therefore, an epileptic fit occurs, it naturally claims the attention of the practitioner. The occurrence of future fits is best prevented by the employment of tincture of opium, taking off the tendency to inordinate action by giving at least a temporary diminution of irritability; and on the same principle, when during a fit the patient is able to swallow, nothing is more effectual either in shortening the fit or diminishing its severity, than a dose of the same accommodated to the age and condition of the patient. Considerable benefit may be derived from any volatile alkaline spirit, such as spirit of hartshorn, the favourite remedy of Dr. Sydenham in such cases. But the best effects may be obtained from the use of the tepid bath, which is not only of service in such cases from its action as an antispasmodic, but which also, by producing relaxation of the skin, facilitates and promotes the eruption. And even allowing that, as some imagine, the number of pustules would be increased by heat applied in this manner, yet much less is to be dreaded from thence than from the continuance of the fits.

Baron Dimsdale next considers the consequences that arise from this very cool and repelling method, and how far the patient's future state of health may be affected by a practice so opposite to what was formerly employed.

It has been the general opinion, that in most or all eruptive complaints, especially the small-pox, the rational method of cure was to forward, by every gentle means, the efforts of nature in producing an eruption; and on the contrary, that there was danger in checking it, either by cold air, cold drink, or any considerable evacuations. For this purpose, the use of warm diluents, and the lying in bed, especially if the fever and symptoms ran high, or at least confining to the house, have been formerly approved and recommended. Experience, however, has now sufficiently confirmed the advantage of a different kind of treatment.

While the old methods prevailed of conducting inoculation, the patients, particularly children, after passing through the disease in a very favourable manner, were frequently liable to abscesses in the axilla and other parts, tedious ophthalmies, and troublesome ulcerations in the place of insertion; which though

they could not be foreseen or prevented, yet often gave more pain and vexation to the patients, and trouble to the operator, than the disease itself had done. But on enquiry into the state of those who have been treated in the cool way, or according to the new method, Baron Dimisdale affirms, that in more than 1500 there has been only one who has had so much as a boil in the axilla; and this was a child who had in the same arm an issue, which was at that time dried up. He had seen only two very small superficial boils in others near the place of insertion; and those seemed to be occasioned rather by an irritation from the discharge than by any other cause, and were all soon healed with very little trouble.

In a few instances also, there has been a slough in the incised part, which has caused a sore of short duration; but not one instance of an ulcer of any continuance. Such little breakings-out too, and scabs, as frequently succeed the mild natural small-pox, sometimes, though rarely, happen to those inoculated in the new way; and, as they are of little consequence, are generally cured by the same method.

In regard to ophthalmies from this kind of practice, Baron Dimisdale had never known an instance of one truly deserving that name. The coats of the eye have been a little inflamed in a very few, but they soon became clear, without any means used for that purpose. He knew but two cases where he thought the inflammation great enough to require bleeding; and not one where a blister was necessary. Those complaints, therefore, which were formerly so frequent and troublesome, seem to be much reduced by the cold method, the great utility of which is now universally acknowledged.

When the benefits of inoculation have now been demonstrated to be so great, it is truly surprising that the practice never became general. Even its wonderful success, particularly when contrasted with the natural small-pox, has not been sufficient to remove the existing prejudices against it; and in many parts of Britain, the lower class were deterred from it by scruples even of a religious nature, by which means the state annually sustained a very considerable loss. It is, however, but just to observe, that in many parts both the medical practitioners and the clergy have done all in their power to remove every difficulty. At Edinburgh, the colleges of physicians and surgeons annually made an offer of their assistance and advice *gratis* to all the poor who would submit to this operation during certain months; and a most respectable clergyman has been at the expence of publishing a plain and sensible discourse, not only calculated to remove every religious doubt or scruple which can be entertained on this head, but also clearly demonstrating to parents, that they have themselves to blame for the death of their children, if they neglect to employ the means

with which Providence has furnished them for preserving the lives of their offspring.

It may naturally be supposed that since the practice of Baron Dimsdale prevailed, some important improvements in *variolous inoculation* must have taken place. One of the most considerable, perhaps, has been the discovery of the inutility, nay, we may say, the injurious tendency, of long preparation, by which, in some instances, as well as by carrying the application of cold too far, very mischievous and sometimes fatal consequences have occurred.

Among the various publications on the subject, there appears to us none of so much real importance as the communication entitled "Observations on the Small-pox, and the Causes of Fever," by Dr. George Fordyce, published in the Transactions of the Society, in London, for the improvement of Medical and Chirurgical Knowledge. The narrative of this very able physician is in the following terms: "I inoculated a family," says he, "consisting of three young ladies, for the small-pox. It was my custom, at that time, to make three small punctures in one arm. It happened in the eldest, that the suppuration in one of these came much forwarder than in the other two: it was perfect on the seventh day, and the fever took place. I expected a great increase of the fever, which was already considerable, when the other two punctures should perfect their suppuration, and was not a little alarmed for the safety of my patient: but was greatly surprised to find, when the first of these perfected its suppuration on the beginning of the eighth day, that it produced no effect whatever on the fever; neither did the second, which perfected its suppuration on the end of the eighth.

"The reason of making more than one puncture, was to ensure the disease's taking place, as it was supposed that a second inoculation could not be made with safety, till it should be certainly known that the first had not taken place, which is not till eight or ten days in many cases, a time of dreadful anxiety to parents. I conceived now that this opinion was erroneous, and accordingly made no more than one puncture after that time.

"It was not till the year after, that a case happened, in which I was in any doubt of the taking of the first puncture; and that was a young gentleman, in his seventh year. On the third day after the first puncture, I made a second. They both came forward. The fever was produced by the suppuration of the first, was very slight, and when the second supplicated, was not at all increased; and there were not twenty pustules in all.

"It happened in about a month afterwards, that I was employed to inoculate a boy of four years. His parents sent him a little way into the country, supposing he would be safer in a purer air. In visiting him, the day after the eruption had appeared, I found a child of the woman who kept the house playing with my

patient. I asked the mother if he had had the small-pox; was told no, but that he was preparing for inoculation, which was to be performed in two or three days. It occurred to me, if the natural infection had taken place, that it might be prevented by immediate inoculation, as I had grounds to believe, that it was generally from twelve to fourteen days after receiving the infection, that the natural small-pox took place. It was impossible to meet the other practitioner till the next day. I therefore persuaded the mother to let me inoculate the child immediately; she insisting, however, that I should not mention it; which, as I conceived the life of the boy was at stake, and there was no pecuniary consideration, I consented to. Three days after, the child was inoculated a second time; my puncture being so slight, as not to be perceived. It inflamed, however; the suppuration was perfected on the eighth day, the fever took place, and the eruption was beginning. The wound made afterwards, suppurated; but no new fever arose, and the patient had about fifty pustules.

“I have now so often repeated this practice, that I have no doubt but that variolous matter has lost all its power of producing fever, after the first twenty-four hours, from the time it is carried into the blood-vessels. I wished, however, to try the effect of inoculation upon a person who had gone through the disease, and accordingly inoculated myself on the back of the hand, by a slight puncture. It inflamed in the usual way, and a pustule arose; so that I was under some apprehension of having the disease, especially as I had already had two eruptive diseases, which my physicians believed at the time were the small-pox, inasmuch, as after the first, no care was taken to avoid exposing me to the infection. I should believe, that they were mistaken in the first. On the fifth day, when the pustule had arisen to the size of the head of a large pin, it was hard, and without any matter, and gradually went away without suppuration. I have inoculated myself several times since. Sometimes the same kind of pustule has taken place, and sometimes there has been no inflammation at all.

“Dr. Rutherford, my learned master, in his lectures on the practice of physic, to ascertain the time the natural infection of the small-pox is latent, before it produces the fever, mentioned the case of a party of soldiers marching through a village where the disease was, that they were seized from twelve to fourteen days afterwards with the fever, and that this was the usual time. I have seen many cases since, which confirm this opinion, although it also happens, that the infection sometimes takes place sooner. I therefore thought, that, if inoculation rendered the system callous, if I may so speak, to variolous matter, instead of there being any danger in inoculating a patient who had already caught the disease, as the infection was quicker in its action, the inoculation had a

great chance of preventing any mischief, by producing the inoculated instead of the natural disease. And this explained a circumstance, which had before surprised and astonished me, viz. the fool-hardiness of certain empirics who brought a person to be inoculated into the room of a patient, when the small-pox were at the height, as in many instances he must catch the natural small-pox at the same time; but the inoculation coming before the natural kind, prevented the mischief. It is nevertheless a dangerous practice; for, if the inoculation should not take place, and the patient be infected, there is all the risk of the natural small-pox.

“ Since the time of my forming these opinions, I have known many instances which confirm them; so that I have no doubt in recommending it to any person, who may chance to have been exposed to the natural infection, to be inoculated immediately.

“ To ascertain the cause of the small-pox being more or less numerous, has been a matter much wished for. In the family I have already mentioned, the lady in whom one puncture suppurated before the others, and alone operated in producing the disease, the small-pox were much more favourable than in the other two, where all the punctures suppurated together. This led me to reflect on the case of a girl of five years of age, whom I had inoculated about a month before. The mother of this child was exceedingly anxious, would hold the child herself, and started in such a manner, that the two first punctures hardly drew blood, and I was induced to make three more; five in all. This child had the disease very severely, which I considered at that time as accidental only, but now began to think, that the quantity of matter absorbed, and acting so as first to produce the fever, was the circumstance which rendered the disease more or less favourable. I therefore resolved to try a very small puncture for the future, which has succeeded so well, that although I have inoculated a great number since that time, I have not met with one case in the smallest degree unfavourable; whereas, when I made a wound as I did at first, and applied the matter on a pledget, the disease was often unfavourable, and the wound very troublesome, which made me change my method to making punctures, of which I made three, rather deep ones, and still I met with many unfavourable cases, so as always to inoculate with terror. I apprehend then, that the principal, if not the only consideration in inoculation, is the manner of making the puncture, which should be done as follows: Run a lancet into a pustule, either at the time of suppuration, or before, so as to be moistened with the matter; let it dry; moisten it a second time; let it dry; view the point with a magnifier; if it be covered to the very point, it is properly armed; if it be not, it must be dipped in the matter again, until the point is covered completely; just before

the puncture is to be made, dip the point in water for a second; let it lie for a minute or two, till the matter be softened again; lay bare the arm, and about the insertion of the deltoid muscle make a puncture, penetrating the scarf skin, so that it may be felt on raising the point of the lancet: if no blood appear, the better. Or if you have fresh matter in a quill, dip the point of the lancet in it, so that the point be perfectly covered, and proceed to make the puncture, as before. Or if you have dry matter in a quill, moisten it with a very small quantity of water, so as to bring it to the consistence of recent matter, and then proceed as before directed. It is not necessary to apply any thing to the arm; after three days examine the arm; if there be no redness, make another puncture about an inch distance. This, however, will very rarely be found necessary.

“ Thus, I flatter myself, I have found what is most essential in inoculation. *Preparation*, it is true, has been supposed to be of great consequence: but I believe this opinion is only a taint of that superstition which originated with medicine; from the first practitioners in the less cultivated state of mankind being priests and conjurers, as well as physicians; and I am afraid we shall never be able to get clear of this taint, which is the foundation of quackery. Preparation is a great instrument of superstition. A man is prepared to die by rubbing a little oil on his breast, turning a chair three times round is an excellent preparation for playing at whist; so eating soup for a month renders the body perfectly prepared for mercury.

“ Taking the matter of preparation seriously, the proposition is, to put the body into a state in which matter of the small-pox shall produce less fever, fewer pustules, or so that the pustules shall have less effect on the system. Now, unless this state be known, how shall we know in what manner it is to be produced? Will any one say that he knows, on producing a person to him who is to be affected with the small-pox, whether he will have them favourably or not? Certainly he cannot on any principle hitherto known. I have had opportunities frequently, in St. Thomas's hospital, of seeing persons using mercurial, antimonial, and other regimens, recommended as preparations, seized with the small-pox, which were in no ways more favourable than in those who were not using any of these remedies. The only thing that seems to have been of any advantage is living for a little time on vegetable food; and this is even doubtful. I have the greatest reason to believe, that it is not of the smallest consequence whether the matter be of the mild or confluent kind. I never knew of an instance of any other disease being communicated by inoculation of the small-pox.

“ There is therefore only one other circumstance, excepting the puncture, to be attended to; which is, that, of the children who

have died in London of inoculation for many years, as far as I have been able to collect, more than two thirds have been under nine months; and therefore I have considered it as improper to inoculate before teething. It happened to me that a family came from America, whose children had not had the small-pox. One of these was under nine months, and on the breast. They applied to me. I refused to inoculate this child, and advised that it should be kept out of the way while the others were inoculated; but, rather than submit to this inconvenience, they applied to another practitioner, who inoculated the whole, and this child died.

“ Since fresh variolous matter has no effect on the fever in the small-pox, it follows, that that which is already in the blood-vessels has also no further effect, after the disease is perfectly brought on; and as other fevers are so exactly similar to that of the small-pox, that it is impossible to distinguish them till the eruption takes place, it is very probable that other infections, as well as the variolous, only act for a short time in producing the fever, and that they also have no further effect. That this is the case we have greater reason to believe, from this observation, that patients who have caught infectious fevers in St. Thomas's and other hospitals, and continued there, have gone through the disease, in a ward where the infection was strong, with as mild symptoms as where peculiar care has been taken to keep the air as pure as possible. And in general many more people recover of fevers in our hospitals than in private families, with similar practice; owing most probably to the directions of the practitioners being more strictly attended to: for such is the disposition of mankind to quackery, that you can hardly ever prevent even a fond mother from trying experiments on her only son, lying ill of a dangerous disease.

“ Moreover, if a crisis should take place in the middle of an infectious fever, it happens when the infection is strongest, and its effects therefore the most powerful, if it acts at all on the patient.

“ Again, those who have once gone through the fever are less subject to the infection than those who have not had the disease. This has been long remarked in the plague. I have observed it in our hospital, in which there are almost always violent fevers, and therefore infectious ones; for all fevers, from whatever cause they arise, I have observed, generate infectious vapour, and commonly according to their violence. Another strong instance is, that some of the felons who have brought infection into a court of justice, so as to destroy almost half the court, have had no fever at the time. In the last case which happened at the Old Bailey, the felon was not at the time affected with fever, or any other disease.

“ From all these circumstances we may conclude, that, during the course of a fever which arose from infection, the infectious matter has nothing to do with the fever, neither increasing nor diminishing, nor any ways altering it; and that therefore it is not necessary to pay any attention to it in the cure of the disease.”

Dr. Fordyce concludes with enquiring “ how far other causes of fever have effect upon it, after it has once taken place ? ”—but this forms no part of our present business.

Dr. P. Russel has published the following account of two cases shewing the existence of the small-pox and the measles in the same person at the same time; a phenomenon deemed by Mr. Hunter impossible, or at least very rare.

“ The measles and the small-pox were epidemical at Aleppo in the year 1765. They both made their appearance about the same time in December of the preceding year, and gradually increased through January, February, and part of March. The measles disappeared in April, while the small-pox lingered till the summer solstice.

“ Till the month of March both diseases were, in general, of a favourable kind. The eruption of the measles commonly happened on the evening of the third or morning of the fourth day. The eruptions were first visible on the face, and began to fade every-where on the sixth or seventh day, but seldom disappeared entirely sooner than the tenth. They were rather more prominent than those which I had observed in Europe, and the branny scurf left on the skin was considerably less. In other respects there was no material variation from Sydenham’s accurate description of the measles epidemic at London in the year 1670.

“ After the beginning of March, the disease became more formidable, the eyes were more inflamed; the coryza, the cough, and the febrile symptoms, were in a greater degree than in the former months. The eruption appeared irregularly from the second to the seventh day of the fever. The eruptions often appeared on the breast before they were seen on the face; they were of a fainter colour, and the branny scurf was, in general, less. A vomiting and diarrhoea were common symptoms from the beginning; the latter continued throughout the disease, the former usually ceased as soon as the eruption was complete; but very young subjects continued to be harassed by retchings, excited by the irritation of sneezing or coughing. About the height of the disease the sick were subject to short exacerbations of the fever, accompanied with difficulty of breathing, and stitches in the chest, which recurred several times in the twenty-four hours. On the whole, the measles, after the month of February, approached nearer to the anomalous species described by Sydenham under the year 1674.

“ From the end of February the small-pox, which hitherto had been of a mild distinct kind, became irregular and much more fatal. The pustules were confluent on the face; on other parts distinct, but generally flattish, and indented at the top. In many cases they suppurated imperfectly; in others they remained dry or husky; and some instances occurred of their turning black about the seventh day. A diarrhoea and tenesmus frequently attended from the beginning to the end.

“ Though a large proportion of the infected still recovered, they continued long in a sickly state. Children were not only reduced by the diarrhoea, but were often attacked with the whooping-cough, or with erratic fevers, both being at that time epidemic in the city. In the more malignant kind of small-pox many died between the seventh and ninth day, some struggled to the eleventh, very few recovered.

“ When the small-pox and the measles prevailed in the same season, many of the children suffered both diseases in succession, as usual. The measles were rarely observed to succeed the small-pox in less than twenty days, reckoning from the eruption. The small-pox commonly succeeded the measles somewhat earlier in the third week; but several cases were met with in which the pustules of the small-pox were discovered on the face before the total disappearance of the measles on the limbs; that is, on the eleventh or twelfth day.

“ It has already been remarked, that few of the infected in either disease died before the month of March. But from that time the mortality in the small-pox was considerable; as those who had just before suffered from the measles, and were reduced by the diarrhoea to a state unfavourable for the reception of a fatiguing distemper, generally perished, unless the supervening small-pox was of a mild kind. The danger appeared to be rather less where a bad kind of measles succeeded the small-pox.

“ The reciprocal influence of the two diseases in the same subject was carefully attended to in above three hundred cases; and so little did the quality of the first disease seem to influence that of the second, that a mild distinct small-pox was often observed to follow the worst kind of measles, and vice versa.

“ In the month of March an instance occurred where both diseases were conjoined in the same patient. The subject was a female child two years old, of a pale delicate complexion. The redness of the eyes, the coryza, and the cough which accompanied the fever, led me to expect the measles. On the fourth day the eruptions of the measles were visible on the face, the neck, and the back; but at the same time a few eruptions of a different kind were interspersed on the face and neck, which, if they had been the sole eruption, I should without hesitation have declared to be

the small-pox. The progress of the pustules on the fifth proved them to be variolous. Both eruptions were of a favourable kind, and distinctly pursued their regular course. On the eighth day the measles were fading fast, while the variolous pustules on the face were near their height. The pustules were not numerous, were very distinct, and ripened perfectly. The cough continued to be a troublesome symptom, especially in the second week. A diarrhœa supervened about the fourteenth day, and contributed to render the child's recovery very slow.

"In the month of April I met with a similar case. A healthy boy, three years old, was attacked with the usual symptoms of the eruptive fevers, at that time epidemical. The cough rather seemed to indicate the measles. On the third day the eruptions of the small-pox and measles made their appearance together. The variolous pustules were of the small round kind, and came to perfect maturity; but were more numerous than in the former case. The measles were of a fainter colour, and left behind them still less of the branny scurf, agreeing in both circumstances with the disease then prevalent.

"On the sixth day of the fever a diarrhœa and tenesmus were joined to the harassing cough, and reduced the patient so low in the second week, that his life was despaired of. The flux, however, leaving him towards the end of the month, he recovered."

The following instance of the same kind fell under the care of Mr. Leese, a practitioner in London, and appears in the Medical and Physical Journal.

"April 19th, 1800. The infant of Mr. W. in Paddington-street, about five months old, at the breast, without any appearance of teeth, had been ever since its birth a very fine and healthy girl, though it had in the skin eight or ten little spots, something like flea-bites, but so very trifling as not to produce in me the least hesitation to inoculate it, it being otherwise quite lively, and in good health: I therefore inserted into the arm some variolous matter, recently taken from a healthy girl that had the disease by inoculation.

"On the morning after the inoculation, a powder, composed of calomel and rhubarb, was given; and afterwards, for a few days, pulv. antim. and calom. in very small doses, every night and morning.

"On the fourth day it was evident the virus had begun to act in the arm, the little spots before observed had disappeared, and the child was in its usual state of health.

"About the ninth day some little specks appeared in the skin, which it was supposed would become variolous pustules; but they disappeared, though about ten or twelve in the arm, around

the inoculated part, continued to increase, and advance to supuration.

" Tenth day, much as yesterday, but the child rather feverish and uneasy.

" Eleventh day, uneasy as yesterday, with some little fever; a very few spots about the body that promised to be variolous pustules.

" Twelfth day, rather more fever, pustules more advanced, bowels open; ordered a saline febrifuge mixture; seemed also a little heavy, and stuffed at the nose. The weather being tolerably fine, it had been carried out almost every day; was therefore supposed to have caught a slight cold.

" Thirteenth day, the variolous pustules advancing, the heat of the skin rather less; but was somewhat surprised to find it filled in every part with an eruption exactly resembling measles, accompanied also with much redness of the eye-lids, and discharge from the eyes; the breathing a little impeded from the stoppage in the nose. As I supposed the variolous and morbillous eruptions could not appear together, but that one would be retarded till the other had taken its course, I was in some doubt whether to pronounce it measles or not.

" Fourteenth day, the variolous pustules increasing, and filled with some matter; a good deal of inflammation in the arm, and the pustules there very prominent, though not very large; the morbillous eruption general, and very distinctly marked, with watering of the eyes, sneezing, cough, and slight oppression in respiration. I took a medical friend with me, who, like myself, had never seen such a case, and he perfectly agreed with me, that there was not the least doubt but the eruption was the measles.

" Fifteenth day, less ill than yesterday, measles disappearing, small-pox advancing, cough and sneezing less frequent than yesterday.

" Sixteenth day, called, but the child was carried out; the mother informed me it was better than yesterday; the measles nearly gone.

" Seventeenth day, measles nearly or quite gone, the variolous pustules dying away also; they were small, and contained but little matter; the inoculated part drying, and black in the centre.

" Eighteenth day, the measles entirely disappeared, and the small-pox going very fast. From this time the child continued to be in perfect health."

Equally singular may be reckoned the occurrence of the small-pox a *second time* in the same person. The following instance is addressed to the editors of the Medical and Physical Journal, by Mr. Purton of Alcester, who says,

“ It has been so generally considered as a fact, that a person once infected with the small-pox is safe from having it a second time, that I feel a considerable degree of diffidence in sending you the following statement of a case, by which it is indisputably proved, that it is possible for the variolous infection to take place a second time in the same person, and that even in the natural way.

“ My partner, Mr. Bloxam, a gentleman of sound judgment, who has been established forty years in a very extensive business, and who visited the patient with me through every stage of the disease, has not a doubt of the nature of the case; nor should I have troubled you on the present occasion, if my mind had not been thoroughly convinced of its accuracy.

“ I have been told by an elderly lady of respectability, that she knew a person, who certainly had had the small-pox twice; and her statement was so very accurate and circumstantial, that it was sufficient to stagger the firmest sceptic; but I confess that my opinion remained unchanged until the following case came under my own observation.

“ The circumstance of a person having the small-pox a second time, from its rarity, must be considered as a singular phenomenon in pathology; therefore I cannot perceive in what way (even if it was generally known) it can injure the cause of variolous inoculation; but it decisively proves that the small-pox may, in a few rare cases, be received twice by the same person, and therefore it ought to be known; and this case deserves more particular attention, because the subject of it was not inoculated for the small-pox, but received the disease in the casual way on both occasions. In the first attack her mother caught the disease from her, and narrowly escaped with her life. The last time I saw her myself; and any person who has doubts may be satisfied by inoculating with some of the matter, which I have preserved.

“ This case is farther entitled to notice, because no greater security against the small-pox can be expected from the vaccine inoculation than from the infection of the natural small-pox; therefore the preference of the cow-pox would not be invalidated by the occurrence of an occasional case, in which the small-pox might be caught after inoculation for the cow-pock, if such an instance should arise.

“ The subject of the present case is Maria Hunt, of Exhall, near this town, aged twenty-two years; she caught the small-pox when she was five months old, and had them very violent, as the marks at this time sufficiently testify. Her mother caught the disease of her, and had it to so alarming a degree, that the apothecary who attended had scarcely a hope of her recovery. The mother is still living, from whom I received this account,

which was also corroborated by the testimony of many respectable neighbours.

“ On the 11th of March last the whole village of Exhall was inoculated with variolous matter, and this young woman was appointed one of the nurses. On the 3d of April she was attacked with severe rigors, pain in the head and back, sickness, and other usual symptoms of an approaching fever. The two following days she was extremely ill; the fever increased to an alarming height, attended with delirium, through most part of the night previous to the appearance of the eruption, which shewed itself on the 6th of April, early in the morning. The eruption continued to increase for several days; her throat became sore, with a sense of fullness, from the number of pustules covering the fauces; and they continued filling till they were completely matured. About the ninth day from the appearance of the eruption, those upon her face began to turn, and in a few days after those upon the rest of her body.

“ I never thought of taking any matter till the thinner contents of the pustules were nearly absorbed; but, however, I have obtained a very sufficient quantity, part of which I will send to you, or any gentleman who wishes for farther confirmation, to make trial of it.

“ The above is a just detail of this extraordinary case, which I leave to medical men to make their own comments upon.”

In the Memoirs of the Medical Society of London we find the following history of a second, or supposed second, small-pox, by Mr. Withers, a surgeon of Newbury in Berkshire.

“ Mr. Richard Langford, a farmer of West Shefford, in this county, about fifty years of age, when about a month old had the small-pox, at a time when three others of the family underwent the same disease, one of whom, a servant man, died with it. Mr. Langford's countenance was strongly indicative of the malignity of the distemper, his face being so remarkably pitted and seamed, as to attract the notice of all who saw him, so that no one could entertain a doubt about his having had that disease in the most inveterate manner; moreover, it was usual for him also, whenever the small-pox happened among the poor of his parish, to attend and assist in accommodating them with all necessaries.

“ On the eighth of May, 1775, I attended this person, from whom I learned, that about a fortnight before, on overheating himself he became indisposed, and continued so for two days, when he became well, and had continued so until the day before I saw him; when he was seized with chills, pain of his back and head, &c. &c. with considerable degree of fever. I directed for him such medicines as circumstances indicated; on visiting him the following day, I found him much the same, and I directed a continuance of his aperient and febrifuge medicines. I saw him

again early on the morning of the tenth, when his fever was somewhat abated, and indeed a mitigation of all his symptoms. The succeeding day I found him still better, but complaining of a rash, which, the family then informed me, they had perceived very early the morning before, but which they forgot to mention to me, and which had escaped *my* notice, his chamber being a very dark one.

“ On examining this eruption, which was now not limited to his face alone, but extended to his arms, breast, and body, its appearance so much resembled the small-pox, that I told the family I should not have hesitated in pronouncing it to be so, if his having had that distemper had not been so notorious. The next day the eruption was universal; his throat also, which he had complained of the day before, was now become more troublesome, and indeed every other appearance so much favoured the idea of the disease being variolous, as to induce me to give the most decided opinion of its being so, and to desire that there might be no communication or intercourse with any of his friends, who had not had that disease. This opinion was ridiculed, and consequently but little attention paid to the precaution. In the progress of this case, the advancement of the pustules, the swelling of the face and head, and that smell peculiar to the disease, as well as every other circumstance, still more and more confirmed me in the opinion I had given.

“ Reflecting on the singularity of the case, I desired, on the eighth day from the invasion, that a physician might visit him; accordingly Dr. Collet, then a resident in this place, was desired to see him: considering how necessary it was that the nature of this case should be investigated in the fullest manner, I requested Dr. Hulbert, a physician of eminence here, would attend with Dr. Collet, on my own account. This measure appeared to me the more necessary, as the whole neighbourhood held my opinion in contempt; even Dr. Hulbert, to whom the patient was well known, laughed at my idea of its being small-pox; however, both those gentlemen, on visiting the patient, pronounced it to be so. As the patient himself never could be reconciled to the opinion of his case being small-pox, he was disinclined to pursue the means recommended, and his surrounding friends being of the same opinion, were the less inclined to enforce the use of them, and Dr. Hulbert (though desirous of continuing his attendance without any fee) was dismissed after his second visit. Under these disadvantages he had but an indifferent chance of recovery from a bad confluent distemper; he died on the twenty-first day from the seizure.

“ Four of the family, as also a sister of the patient's, to whom the disease was conveyed by her son's visiting his uncle, falling

down with the small-pox, fully satisfied the country with regard to the nature of the disease, which nothing short of this would have done: the sister died.

“ This case was thought so extraordinary a one, as to induce the rector of the parish to record the particulars of it in the parish register.”

In the following instance, the small-pox was supposed to have been contracted *in utero*. It is inserted in the Medical and Physical Journal by Mr. Hebb, who says,

“ About mid-day on Tuesday the 7th of April, Elizabeth Berry, being at her full time, was seized with pain in the head and back, great thirst and heat, which, by the good women where she resided, were supposed to be the harbingers of approaching labour. On the following day they informed me of these circumstances, and also that she had never had the small-pox, and that it had lately been at the next door. When I considered that the heat and thirst were not consequent upon, but coeval with the pain in the back, I strongly suspected that it would turn out the eruptive fever of that disease. I intimated my suspicions to the attending women, and begged they would carefully watch the appearance of any eruption. In the night I was called up to her; and about five o'clock in the morning (April 9) she was delivered of a boy. I called upon her in the course of the day; but although she continued very hot, no eruption had appeared. Towards the evening, however, her nurse observed about half a dozen pimples upon her face; and the next morning, when I saw her, many had appeared, which gradually thickened, and became confluent. On the Monday morning following (being only four complete days after labour), I was desired to look at the child, as he had been for some hours apparently unwell, and had puked considerably. I found him hotter than usual, and he moaned much. On the Wednesday morning, being six days from his birth, I perceived a considerable variolous eruption, which gradually increased; and on the Tuesday following (April 21), put a period to his existence. The child sucked on the day after his birth. The mother, I am happy to say, recovered.

“ It may not here be improper to observe, that I have fixed the dates of the symptoms and appearances as they came under my own eye; although probably they took place several hours previous, as the women say they thought the child was unwell on the Sunday evening, and on the Tuesday evening they saw a few little spots, which they took for the red gum, but which, from the number of variolous eruptions I saw on the following morning, there is good reason to believe were the small-pox.

“ Did this child receive the infection before or after birth?

“ It has been generally admitted that the casual small-pox rarely produces its constitutional symptoms till ten or twelve days

after infection; and Dr. Haygarth, who has paid the most minute and unremitting attention to every thing connected with variolous contagion, seems to place eight days as the shortest period that elapses between infection and eruptive fever. Most authors are also of opinion, that the small-pox is not contagious during the eruption. As this child, from my own observation, had decided marks of eruptive fever when only four days old, and eruptions when only six, and these events (as before observed) had taken place several hours previous, it appears clear, if he received the infection after birth, that the above-mentioned positions cannot, in all cases, be well founded: but when I consider the high and numerous authorities that support these doctrines, my mind seems satisfied that he took the disease before that period. It required no additional facts to prove that the foetus could receive the variolous infection *in utero*; there are so many on record, that the hardiest sceptic can no longer foster a doubt upon the subject; but I have not been able to discover one that could throw much light on the stage at which the mother conveyed it to the foetus, whether before the eruptive fever, during the eruption, or after it. If Dr. Haygarth's statements are founded in truth, this fact will at least prove, that it may be conveyed even previous to the eruptive fever, as that fever took place in the child only six days from its first appearance in the mother; and eight days are allowed, by Dr. H. and other able writers, to be the shortest period that passes between infection and constitutional symptoms.

“Two facts related by Dr. Waterhouse go far to prove that the disease may be communicated through the medium of the blood, sooner than in any other way. He instances two ladies who took the small-pox from the effluvia of the blood of another lady, who was bled during the eruptive fever, it not being known at the time that she had that disease; the one lady held the basin, the other had it handed to her to put down. When we consider that the best anatomists are of opinion that the chief use of the placenta is as a breathing organ for the foetus, there seems a material analogy between these parts, which mutually support and illustrate each other. If breathing for a few moments the effluvia of the blood, during the eruptive fever, can convey the small-pox, it requires no great stretch of faith to believe, that, by that continual respiration (if I may use the expression) which is going on between the mother and foetus, it may be conveyed before that period.”

GENUS XXIX. VARICELLA.

CHICKEN-POX.

Varicella, *Vog.* 42.

Variola lymphatica, *Saur.* sp. 1.

Anglis, *The Chicöen-pox.* Edin. Med. Essays, vol. ii. art. 2. near the end. *Heberden*, Med. Transac. art. 17.

This is in general a very slight disease, and is attended with so little danger, that it would not merit any notice, if it were not apt to be confounded with the small-pox, and thus give occasion to an opinion that a person might have the small-pox twice in his life; or they are apt to deceive into a false security those who have never had the small-pox, and make them believe that they are safe, when in reality they are not. This eruption breaks out in many, according to Dr. Heberden, without any illness or previous sign; in others it is preceded by a little degree of chilliness, lassitude, cough, broken sleep, wandering pains, loss of appetite, and feverish state for three days.

In some patients the chicken-pox make their first appearance on the back; but this perhaps is not constant. Most of them are of the common size of the small-pox, but some are less. Dr. Heberden never saw them confluent, nor very numerous. The greatest number was about twelve in the face, and two hundred over the rest of the body.

On the first day of the eruption they are reddish. On the second day there is at the top of most of them a very small bladder, about the size of a millet-feed. This is sometimes full of a watery and colourless, sometimes of a yellowish liquor, contained between the cuticle and skin. On the second, or, at the farthest, on the third day from the beginning of the eruption, as many of these pocks as are not broken seem arrived at their full maturity; and those which are fullest of that yellow liquor very much resemble what the genuine small-pox are on the fifth or sixth day, especially where there happens to be a larger space than ordinary occupied by the extravasated serum. It happens to most of them, either on the first day that this little bladder arises, or on the day after, that its tender cuticle is burst by the accidental rubbing of the clothes, or by the patient's hands to allay the itching which attends this eruption. A thin scab is then formed at the top of the pock, and the swelling of the other part abates, without its ever being turned into pus, as it is in the small-pox. Some few escape being burst; and the little drop of liquor contained in the vesicle at the top of them grows yellow and thick, and dries into a scab. On the fifth day of the eruption they are almost all dried

and covered with a slight crust. The inflammation of these pocks is very small, and the contents of them do not seem to be owing to suppuration, as in the small-pox, but rather to what is extravasated under the cuticle by the serous vessels of the skin, as in a common blister. No wonder, therefore, that this liquor appears so soon as on the second day; and that, upon the cuticle being broken, it is presently succeeded by a slight scab. Hence too, as the true skin is so little affected, no mark or scar is likely to be left, unless in one or two pocks, where, either by being accidentally much fretted, or by some extraordinary sharpness of the contents, a little ulcer is formed in the skin.

The patients scarce suffer any thing throughout the whole progress of this illness, except some languidness of strength and spirits and appetite; all which is probably owing to the confining of themselves to their chamber.

Two children were taken ill of the chicken-pox, whose mother chose to be with them, though she had never this complaint. Upon the eighth or ninth day, after the pocks were at their height in the children, the mother fell ill of this distemper, then beginning to shew itself. In this instance the infection lay in the body much about the same time that it is known to do in the small-pox.

Remedies are not likely to be much wanted in a disease attended with hardly any inconvenience, and which in so short a time is certainly cured of itself.

The principal marks by which the chicken-pox may be distinguished from the small-pox are,

1. The appearance, on the second or third day from the eruption, of that vesicle full of serum upon the top of the pock.
2. The crust, which covers the pocks on the fifth day; at which time those of the small-pox are not at the height of their suppuration.

Foreign medical writers hardly ever mention the name of this disease; and the writers of our own country scarce mention any thing more of it than its name. Morton speaks of it as if he supposed it to be a very mild genuine small-pox. But these two distempers are surely totally different from one another, not only on account of their different appearances above mentioned, but because those who have had the small-pox are capable of being infected with the chicken-pox; but those who have once had the chicken pox are not capable of having it again, though to such as have never had this distemper, it seems as infectious as the small-pox. Dr. Heberden wetted a thread in the most concocted pus-like liquor of the chicken-pox which he could find, and after making a slight incision, it was confined upon the arm of one who had formerly had it; the little wound healed up immediately, and shewed no signs of any infection.

From the great similitude between the two distempers, it is probable that, instead of the small-pox, some persons have been inoculated from the chicken-pox; and that the distemper which had succeeded has been mistaken for the small-pox by hasty or inexperienced observers.

There is sometimes seen an eruption concerning which Dr. Heberden is in doubt whether it be one of the many unnoticed cutaneous diseases, or only a more malignant sort of chicken-pox.

This disorder is preceded for three or four days by all the symptoms which forerun the chicken-pox, but in a much higher degree. On the fourth or fifth day the eruption appears, with very little abatement of the fever; the pains likewise of the limbs and back still continue, to which are joined pains of the gums. The pocks are redder than the chicken-pox, and spread wider, and hardly rise so high, at least not in proportion to their size. Instead of one little head or vesicle of a serous matter, these have from four to ten or twelve. They go off just like the chicken-pox, and are distinguishable from the small-pox by the same marks; besides which the continuance of the pains and fever after the eruption, and the degree of both these, though there be not above twenty pocks, are circumstances never happening in the small-pox.

GENUS XXX. RUBEOLA.

MEASLES.

Rubeola, *Sauv.* gen. 94. *Lin.* 4. *Sag.* 293.
 Febris morbillosa, *Veg.* 36. *Hoffm.* II. 26.
 Morbilli, *Junck.* 76.

Sp. I. The *Regular* MEASLES.

Rubeola vulgaris, *Sauv.* sp. 1.
 Morbilli regulares, *Sydenh.* sect. iv. cap. 5.

Var. 1. The *Anomalous* MEASLES.

Rubeola anomala, *Sauv.* sp. 2.
 Morbilli anomali, *Sydenh.* sect. v. cap. 3.

Var. 2. The MEASLES attended with *Quinsy*.

Var. 3. The MEASLES with *Putrid Diathesis* of the Blood.

Sp. II. The VARIOLODES.

In Scotland commonly called the *Nirles*.

Rubeola variolodes, *Sauv.* sp. 3.

1. *Description.*] This disease begins with a cold stage, which is soon followed by a hot, with the ordinary symptoms of thirst, anorexia, anxiety, sickness, and vomiting; and these are more or less considerable in different cases. Sometimes from the beginning the fever is sharp and violent: often, for the first two days, it is obscure and considerable; but always becomes violent before the eruption, which commonly happens on the fourth day. This eruptive fever, from the beginning of it, is always attended with hoarseness, a frequent hoarse dry cough, and often with some difficulty of breathing. At the same time the eye-lids are somewhat swelled; the eyes are a little inflamed, and pour out tears; and with this there is a coryza, and frequent sneezing. For the most part a constant drowsiness attends the beginning of this disease. The eruption, as we have said, commonly appears upon the fourth day; first on the face, and successively on the lower parts of the body. It appears first in small red points; but soon after a number of these appear in clusters, which do not arise in visible pimples, but by the touch are found to be a little prominent. This is the case on the face; but, in other parts of the body, the prominency or roughness is hardly to be perceived. On the face the eruption retains its redness, or has it increased, for two days; but on the third the vivid redness is changed to a brownish red; and in a day or two more the eruption entirely disappears, while a mealy desquamation takes place. During the whole time of the eruption the face is somewhat turgid, but seldom considerably swelled. Sometimes, after the eruption has appeared, the fever ceases entirely: but this is seldom the case; and more commonly the fever continues or is increased after the eruption, and does not cease till after the desquamation. Even then the fever does not always cease, but continues with various duration and effect. Though the fever happen to cease upon the eruption's taking place, it is common for the cough to continue till after the desquamation, and sometimes much longer. In all cases, while the fever continues, the cough also continues, generally with an increase of the difficulty of breathing; and both of these symptoms sometimes arise to a degree which denotes a pneumonic affection. This may happen at any period of the disease; but very often it does not come on till after the desquamation of the eruption.

After the same period, also, a diarrhoea frequently comes on, and continues for some time.

It is common for measles, even when they had not been of a violent kind, to be followed by inflammatory affections, particularly ophthalmia and phthisis. If blood be drawn from a vein in the measles, with circumstances necessary to favour the separation of the gluten, this always appears separated, and lying on the surface of the crassamentum, as in an inflammatory disease. For the most part, the measles, even when violent, are without any putrid tendency; but in some cases, such a tendency appears, both in the course of the disease, and especially after the ordinary course of it is finished.

2. *Causes.*] The measles are occasioned by a peculiar kind of contagion, the nature of which is not understood; and which, like that of the small-pox, affects a person only once in his life.

3. *Prognosis.*] From the description of this distemper already given, it appears that the measles are attended with a catarrhal affection, and with an inflammatory diathesis to a considerable degree; and therefore the danger of them is to be apprehended chiefly from the coming on of a pneumonic inflammation.

4. *Cure.*] In measles, as well as in small-pox, the disease from its nature must necessarily run a determined course; and therefore the sole aim of a practitioner is to conduct this course in the easiest manner, by preventing and obviating urgent symptoms.

From the consideration mentioned in the prognosis, it will be obvious, that the remedies especially necessary are those which may obviate and diminish the inflammatory diathesis; and therefore, in a particular manner, blood-letting. This remedy may be employed at any time in the course of the disease, or after the ordinary course of it is finished. It is to be employed more or less, according to the urgency of the symptoms of fever, cough, and dyspnoea; and generally may be employed very freely. But as the symptoms of pneumonic inflammation seldom come on during the eruptive fever, and as this is sometimes violent immediately before the eruption, though a sufficiently mild disease be to follow; bleeding is seldom very necessary during the eruptive fever, and may often be reserved for the times of greater danger which are perhaps to follow.

In all cases of measles, where there are no marks of putrescency, and where there is no reason, from the known nature of the epidemic, to apprehend putrescency, bleeding is the remedy most to be depended upon: but assistance may also be drawn from cooling purgatives, such as (No. 55.) or (No. 58.), proportioned to the age and strength of the patient; and particularly from blistering on the sides or between the shoulders. The dry cough may be alleviated by the large use of demulcent pectorals, mucilaginous, oily, or sweet, such as (No. 96.) or (No. 97.); or the following formulæ of Dr. Nankivel:

(No. 165.) R Olei amygdal.
Syr. violar. sing. ʒj.
Sperm. ceti ʒij.
Conf. rosar. ʒfs. Misce fiat Linctus;

Paulum subinde fumendus.

(No. 166.) R Olei amygdal. ʒj.
Syr. violar.
Syr. Tolutan. sing. ʒfs. Misce.

Detur coch. minim. subinde.

Or the following from the Pharmacopœia of St. Thomas's hospital:

(No. 167.) R Spermat. ceti in pulv. triti
Conserv. rosæ rub. sing. ʒj.
Pulv. e tracacanth. comp. ʒfs.
Syr. Tolut. q. s. ut fiat Lohoch.

(No. 168.) R Semin. cydoniorum ʒj.
Coque ex Aquæ fontis q. s. ad colaturæ libram dimidiam.

This last is well calculated to sheath the irritated fauces. Or the *Linctus communis* of Guy's hospital may be resorted to:

(No. 169.) R Pulv. Tragacanth. comp.
Sperm. ceti in pulv. trit. aa ʒfs.
Syrupi simplicis q. s. ut fiat Linctus.

It may, however, be observed, with respect to these demulcents, that they are not so powerful in involving and correcting the acrimony of the mass of blood as has been imagined; and that their chief operation is by besmearing the fauces, and thereby defending them from the irritation of acrids, either arising from the lungs or distilling from the head. For moderating and quieting the cough in this disease, opiates certainly prove the most effectual means, whenever they can be safely employed. In the measles, in which an inflammatory state prevails in a considerable degree, opiates have indeed by some been supposed to be inadmissible: but experience abundantly demonstrates, that the objection made to their use is merely hypothetical; and even in cases where, from a high degree of pyrexia and of dyspnoea, there is reason to fear the presence, or at least the danger, of pneumonic inflammation, opiates are highly useful; after bleeding, to obviate or abate the inflammatory state, has been duly employed. In such cases, while the cough and watchfulness are the urgent symptoms, opiates may be safely exhibited, and with great advantage, not only in moderate doses at bed-time, but also by substituting *syr. papav. alb.* for the other syrups directed in the linctuses used by the patient, and sometimes even adding to their sedative tendency, by the addition of a suitable quantity of tincture of opium. In all the exanthemata, there is an acrimony diffused over the system, which gives a considerable irritation; and, for obviating the ef-

fects of this, opiates are useful, and always proper, when no particular contra-indication prevails.

When the desquamation of the measles is finished, though then there should be no disorder remaining, physicians have thought it necessary to purge the patients several times, with a view to draw off what have been called the *dregs of this disease*; that is, a portion of the morbid matter which is supposed to remain long in the body. Dr. Cullen does not reject this supposition; but at the same time cannot believe that the remains of the morbid matter, diffused over the whole mass of blood, can be wholly drawn off by purging; and therefore thinks, that to avoid the consequence of the measles, it is not the drawing off the morbid matter which we need to study, so much as to obviate and remove the inflammatory state of the system which had been induced by the disease. With this last view indeed, purging may still be a proper remedy; but bleeding, in proportion to the symptoms of inflammatory disposition, is still more so.

From our late experience of the use of cold air in the eruptive fever of the small-pox, some physicians have been of opinion that the practice may be transferred to the measles; but this point has not yet been determined by sufficiently extensive experience. We are certain, that external heat may be very hurtful in the measles, as in most other inflammatory diseases; and therefore, that the body ought to be kept in a moderate temperature during the whole course of the disease: but how far, at any period of the disease, *cold air* may be applied with safety, is still uncertain. Analogy, though so often the resource of physicians, is frequently fallacious; and further, though the analogy with the small-pox might lead to the application of cold air during the eruptive fever of the measles, the analogy with catarrh seems to be against the practice. When the eruption is upon the skin, there are many instances of cold air making it disappear, and thereby producing much disorder in the system; and there are also frequent instances of this disorder being removed by restoring the heat of the body, and thereby again bringing out the eruption.

The late Dr. Hugh Smith supposed the measles to require a treatment greatly analogous to the small-pox; and that the eruption was to be promoted in the same manner, by due management of the febrile impetus,

He observes that the most dangerous symptom in this disease is inflammation of the lungs, which frequently supervenes. Here blood-letting becomes then a sovereign remedy; and may be boldly repeated, according to the strength of the pulse, and urgency of the symptoms. The following antimonial powder he says is eminently serviceable:

(No. 170.) R Antim. Tartar. gr. β. ad gr. j β.
Calc. antimonii ʒβ.

Misce fiat pulvis.

Vel, (No. 171.) R Regul. antimonii
Nitri aa pondera æqualia.

Separatim in pulverem trita probe misceantur, deinde gradatim injiciatur mixtura in crucibulum leviter candens; materia ab igne remota aqua bulliente ablatur, & in pulverem subtilissimum reducatur.

(No. 172.) R Pulv. ut sup. ʒβ. ad 3β.
Mercurii corallini gr. i.

Misce fiat pulvis.

In the above preparation it is immaterial whether the regulus, crocus, or glass of antimony, be made use of.

Gentle cathartics and blisters after bleeding, may be likewise expedient; under some circumstances, an emetic; and to mitigate the cough, an oily opening medicine.

(No. 173.) R Aq. fontan. ℥iiij.
Sal. corn. cerv. vol. ʒj,
Sal. nitri 3β.
Ol. amygd. dulc. ℥j.
Syr. balsam. 3β.

Misce capt. coch. ij. subinde.

To this, towards the end of the disease, if the cough should be very troublesome, may be added the elixir paregoricum, or any other mild opiate.

Dr. Temple divides this disease into two species, the *inflammatory* and the *putrid*.

Describing the method of cure in the former, he says, "The chief indication is to remove the inflammatory diathesis, by bleeding in proportion to the violence of the fever, cough, and dyspnoea; but as there may be as great, or even greater, necessity for this remedy in the secondary fever, an attention to this circumstance must guide us in the use of the lancet during the eruptive stage. Cooling laxatives are necessary.

(No. 174.) R Mannæ 3ss.
Kali tartarizat. Vel,
Chryst. tartar. 3j. ad 3iiij.
Aq. fervent. ℥ij.
Tinct. fennæ 3j. m. f. haust.
Vel,

(No. 175.) R Natri vitriolati 3iss.

Aq. fervent. ℥vj.

Coccinell. gr. ij.

Ol. menth. pip. eff. gtts. ij. misce

Capt. cochl. ij. amp. 2da quaque hora, donec bis terve subducatur alvus.

Vel,

(No. 176.) \mathcal{R} Chryst. tart. \mathfrak{z} ij.
Pulv. rhab. \mathfrak{z} j. m. f. pulv.
Vel,

(No. 177.) \mathcal{R} Sodæ phosphoratæ \mathfrak{z} iss.
Juscul. pull. \mathfrak{f} ss.

Solve capt. mane primo.

Laxative clysters must be frequently (daily) injected. Small doses of antim. tartarif. to determine to the surface will be proper. Give neutral salts, combined with demulcents and balsamics.

(No. 178.) \mathcal{R} Sperm. ceti (vit. ov. trit.) \mathfrak{z} j.
Tinct. toltan. \mathfrak{z} j.

Aq. fontan. \mathfrak{z} iss.

Suc. limon. cum kali prep. satur. \mathfrak{z} ss.

M. f. haust. \mathfrak{z} tia quaque hora sum.

Vel,

(No. 179.) \mathcal{R} Gum. arab. \mathfrak{z} ij.

Aq. fervent. \mathfrak{z} vj. solve et adde

Syr. althææ \mathfrak{z} ss.

Sal. nitri \mathfrak{z} ij.

M. capt. cochl. iij. amp. \mathfrak{z} tia quaque hora.

Vel,

(No. 180.) \mathcal{R} Pulv. e tragacanth. c.

Conf. cynosb. \mathcal{R} *Conf. cynosb.*

Ol. amygd. dulc. aa \mathfrak{z} ss.

Syr. toltan. q. f.

M. f. linct. capt. cochl. j. parv. urgente tussi.

The cough may be farther alleviated by allowing the free use of demulcent, pectoral liquids for the common drink; the pectoral decoction, with nitre dissolved in it, in the proportion of one drachm to a pint, will be very proper. If after bleeding at the arm, the cough and dyspnœa are urgent, apply leeches to some part of the thorax, and blisters, and warm vapour to be inhaled. If expectoration come on, promote it by the methods recommended under PNEUMONIA.

“ If, when the inflammatory diathesis is removed, the cough should remain in a distressing degree, opiates may be given with safety and advantage; and a change of air should be insisted on, if the cough continues obstinate, which will often remove it when nothing else will.

“ Physicians differ much in opinion about the propriety of admitting cold air, and giving cold liquids, in this disease; all that can be said upon the subject at present is, that the advantages to be derived from them have not yet been sufficiently established by experience, while it is very certain, that, in some instances, the eruption has receded during their use, and bad consequences ensued; et adhuc sub judice lis est. The sick chamber should be kept cool.

“ When the disease is over, some purges will be necessary.

“ If symptoms of pneumonia come on after the desquamation, pursue the method pointed out as proper for that disease. If a diarrhoea occur, bleeding will be necessary, and a blister to the abdomen. If symptoms of putridity appear, proceed as directed in the next chapter.”

The *putrid* measles, Dr. Temple observes, appeared in London in the years 1672, 1763, and 1768, and at Plymouth in 1745. The late Sir William Watson gives the following account of it in the London Medical Observations, vol. IV. art. 11th. He thinks it is of the utmost consequence in practice to distinguish this from the inflammatory measles.

“ Watery inflamed eyes,” says Dr. Watson, “ a cough, and an universal debility, were the first indications of a person’s being attacked. To these generally succeed a restless night. On the next day the fever usually rose to a considerable height, attended with pain and heaviness in the head, at which time the eruptions appeared; so that most frequently, on the second or third day, the measles were visible on most parts of the body. The cough, and inflamed eyes, grew worse. The patient now complained of great heat, oppression, and restlessness. The breathing was generally difficult, and there was no expectoration. The skin was usually dry; the fauces were of a deep red colour, and the tongue mostly foul; the thirst was great; the pulse very quick, and seldom full, and they complained of great weakness; the eruption, heat, and inflammatory symptoms, continued in the manner just now mentioned, more or less, according to the severity of the disease, four or five days, and then went off. In some instances they continued a few days longer; but in the greater number the eruptions were gone at the end of the fourth day. This I consider as the first stage of the disease.

“ The second or last stage of the malignant measles began after the febrile heat was over, and the eruptions had disappeared.

“ The watery eyes in many were now turned into a grievous soreness of that organ, which lasted in some a considerable time. The cough, oppression, and difficulty of breathing, continued equally severe, and sometimes more so than during the eruption, attended with great restlessness and anxiety, and with scarce any expectoration; the thirst was abated; the pulse was quick, but low, and frequently irregular, and the debility in many was extreme, especially if at this period the patient was teased with purging stools. By this time they were greatly reduced in their flesh. If in this state a delirium came on, it indicated that death was not far off.”

The doctor here enters into a defence of Sydenham, against

Dr. Mead's reprehension of him for not bleeding in the beginning of the measles, and proceeds thus :

" If in the second stage of the disease the dryness of the skin went off, and gentle perspiration came on ; if the restlessness and anxiety were abated ; if the cough and difficulty of breathing became less severe, and if the patient recovered a little strength ; these were favourable appearances. The reverse of this indicated mischief.

" Of those who died, we lost but few in the first stage of the disease ; several on the two or three first days of the second, more between the second and third week. Some, indeed, died more than a month after they were first attacked. Of those who died, some sunk under laborious respiration, more from a dysenteric purging, the disease having attacked the bowels ; and of these, one died of a mortification of the rectum. Besides this, six others died sphacelated in one or more parts of the body. The girls who died most usually became mortified about the pudenda. Two had ulcers in their mouth and cheek, which last was so corroded by them, that the cheek, from the ulcers within, sphacelated externally before they died. Of these, one had the gums and jaw-bone corroded to so great a degree, that most of the teeth on one side came out before she died. The lips and mouths of many who recovered were ulcerated, and continued so for a long time. Besides these, after the cough, difficulty of breathing, and other seemingly threatening symptoms, were gone off, several were so debilitated, that they refused to take almost any nourishment, and sunk quite emaciated ; one so late as six weeks after the attack.

" Several were opened who died under different circumstances attending this disease ; of some, who died of laborious respiration, after the feverish heat and eruptions were passed, the bronchial system was found very little loaded with mucus ; but the substance of the lungs was tender, and their blood vessels were very much distended and obstructed.

" In a girl, who died, on the nineteenth day of laborious respiration and extreme debility, many strong adhesions were found between the lungs and pleura. The lungs were distended with blood, and the left lobe had begun to sphacelate. Part of the jejunum was much inflamed, and contained several worms.

" Another died at the end of three weeks, during which time his breathing had been difficult ; for several days he had had a colliquative purging ; but when he was apparently no worse than he had been for some days before, he died suddenly. He had complained much of a sharp pain under the left scapula. Upon opening the thorax the blood vessels of the lungs were found much enlarged, and a sphacelus of considerable extent in the

left lobe. This by corroding the blood vessels occasioned an hæmorrhage, which filled almost the left cavity of the chest. The sphacelated part of the lungs contained a considerable quantity of putrid, dark-coloured, highly offensive sanies. Collections of purulent matter were found in none; on the contrary, in this putrid disease every morbid appearance indicated a sphacelus."

Sir William next proceeds to the mode of treating this form of the disease.

"He observes, that bleeding, which was practised in the first and second stage, gave no relief to the pneumonic symptoms or fever; that the relief of this truly-putrid disease was attempted by other means, which were, cleansing the stomach and bowels with small doses of tartar emetic (antimon. tartarifat.) and this was of signal service, as it generally mitigated the symptoms: then cooling antiseptics were directed. The chambers of the sick, it being summer, were kept cool; if they had no purging, their common drink was pectoral decoction, with a due mixture of simple oxymel, and of this they were ordered to drink plentifully; if this was disliked, barley-water, with vinegar, or balm-tea, was substituted.

"Where the symptoms ran high, with great restlessness, and dryness of the skin, tepid bathing of the whole body, as long as the patient could conveniently bear it, was of great service.

"This practice was confined to the inflammatory state; afterwards it was not thought advisable, on account of the great debility of the sick. The use of blisters was not found to be so extensive in the first as in the second stage.

"The treatment in the second stage was different from that of the first, and also varied in different and the same persons, according as the symptoms indicated. Blisters relieved many; wine was given in whey, or in common drink. In case of griping, colliquative stools, which often came on, an infusion of the rad. serpentar. virginian. with conf. aromatic. was given, to which a few drops of thebaic tincture (tinct. opii) were added occasionally, which was also given in mutton broth as a clyster. Their nourishment was rice gruel; if the cough and dyspnoea were moderate, the decoct. cort. Peruv. was of great service; when they were violent, they were generally increased by it; and under these circumstances, the rad. serpent. virg. was substituted, but with less beneficial effects. Late in the disease, when the stomach was so enfeebled that the patients could take no nourishment of a more solid kind, milk, alone, or mixed with water, was most grateful, alleviated their complaints, and recruited their strength."

From the above account, this variety of the disease will be readily distinguished from the inflammatory measles. even at the

beginning. The great general debility and state of the pulse will decisively establish the diagnosis.

Upwards of twenty years ago, inoculation for the measles was proposed, and practised in several instances with success, by Dr. Home of Edinburgh. His method of communicating the infection was, by applying to an incision in each arm, cotton moistened with the blood of the patient labouring under the measles; but with others who have made similar trials, the attempt has not yet succeeded. Attempts too have been made to inoculate this disease by means of the fluid discharged under the form of tears, the squamæ falling from the surface, and the like; but there is reason to believe, that where it was imagined the infection had thus been communicated, the contagion was only carried about the person inoculating, and communicated in the ordinary way.

From inoculation of the measles, it is imagined that several advantages may be obtained; and among others, it is thought the soreness of the eyes may be mitigated, the cough abated, and the fever rendered less severe. But the practice was never much in fashion, and now is deservedly laid aside.

GENUS XXXI. MILIARIA.

The MILIARY FEVER.

Miliaria, Lin. 7.

Miliaris, Sauv. gen. 95. Sag. gen. 295.

Febris miliaris, Vog. 37.

Febris purpurata rubra et alba miliaris, Hoffm. II. 68.

Febris purpuera seu miliaris. Junck. 75.

Germanis der Friesel. God. Welfsch. Hist. Med. de novo puerperarum morbo qui der Friesel dicitur, Lips. 1655.

Hamilton, de febr. miliar. 1710. Fantonus, de febr. mil. 1747.

Allioni de miliar. 1758. Fordyce, de febr. mil. 1748. Fischer,

de febr. mil. 1767. De Haen, de divis. febr. 1760. et in

Ration. med. passim. Matt. Collin, ad Baldinger de miliar.

1764.

Miliaris benigna, Sauv. sp. 1.

Miliaris maligna, Sauv. sp. 2.

Miliaris recidivans, Sauv. sp. 3.

Miliaris Germanica, Sauv. sp. 5.

Miliaris Boia, Sauv. sp. a.

Miliaris Britannica, Sauv. sp. i.

Miliaris nova febris, Sydenh. Sched. monit. Sauv. sp. d.

Miliaris sudatoria, Sauv. sp. e.

Miliaris nautica, Sauv. sp. g.

Miliaris purpurata, Sauv. sp. b.

Miliaris lactea, Sauv. sp. c.

Miliaris puerperarum, Sauv. sp. k.

Miliaris scorbutica, Sauv. sp. l.

Miliaris crüica, Sauv. sp. b.

History and Description.] This disease is said to have been unknown to the ancients, and that it appeared for the first time in Saxony about the middle of the last century. It is said to have since spread from thence into all the other countries of Europe; and, since the period mentioned, to have appeared in many countries in which it had never appeared before.

From the time of its having been first taken notice of, it has been described and treated of by many different writers; and by all of them, till very lately, has been considered as a peculiar idiopathic disease. It is said to have been constantly attended with peculiar symptoms. It comes on with a cold stage, which is often considerable. The hot stage, which follows, is attended with great anxiety, and frequent sighing. The heat of the body becomes great, and soon produces profuse sweating, preceded however, with a sense of pricking, as of pin-points in the skin, and the sweat is of a peculiar rank and disagreeable odour. The eruption appears sooner or later in different persons, but at a determined period of the disease. It seldom or never appears upon the face; but appears first upon the neck and breast, and from thence often spreads over the whole body.

The eruption named *miliary* is said to be of two kinds; the one named the *red*, the other the *white miliary*. The former, which in English is strictly named a *rash*, is commonly allowed to be a symptomatic affection; and as the latter is the only one that has any pretensions to be considered as an idiopathic disease, it is this only that we shall more particularly describe and treat of under this genus.

What is then called the *white miliary eruption*, appears at first like the red, in very small red pimples, for the most part distinct, but sometimes clustered together. Their little prominence is better distinguished by the finger than by the eye. Soon after the appearance of this eruption, and, at least, on the second day, a small vesicle appears upon the top of the pimple. At first the vesicle is whey-coloured; but soon becomes white, and stands out like a little globule on the top of the pimple. In two or three days, these globules break, or are rubbed off; and are succeeded by small crusts, which soon after fall off in small scales. When one set of pimples takes this course, another set arises to run the same; so that the disease often continues upon the skin for many days together. Sometimes when one crop of this eruption has disappeared, another, after some interval, is produced. And it

has been further observed, that in some persons there is such a disposition to this disease, that they have been affected with it several times in the course of their lives.

This disease is said to affect both sexes, and persons of all ages and constitutions; but it has been observed at all times to affect especially, and most frequently, lying-in women.

It is often accompanied with violent symptoms, and has frequently proved fatal. The symptoms, however, attending it are very various; and they are, upon occasions, every one attending febrile diseases; but no symptom, or concurrence of symptoms, are steadily the same in different persons, so as to give any specific character to the disease. When the disease is violent, the most common symptoms are phrenetic, comatose, and convulsive affections, which are also symptoms of all fevers treated by a very warm regimen.

Cure.] While there is a variety of symptoms appearing in this disease, it is not to be expected that any one particular method of cure can be proposed; and, accordingly, we find, in different writers, different methods and remedies prescribed; frequent disputes about the most proper; and those received and practised by some, opposed and deserted by others.

It appears, however, to Dr. Cullen, very improbable, that this was really a new disease, when it was first considered as such. There are very clear traces of it in authors who wrote long before that period; and though they were not, we know that ancient descriptions were often inaccurate and imperfect, particularly with respect to cutaneous affections; and we know also that those affections which commonly appeared as symptomatic only, were often neglected, or confounded together into a general appellation.

The antecedent symptoms of anxiety, sighing, and pricking of the skin, which have been spoken of as peculiar to this disease, are, however, common to many others; and perhaps to all those in which sweatings are forced out by a warm regimen. Of the symptoms said to be concomitant of this eruption, there are none which can be affirmed to be constant and peculiar but that of sweating. This, indeed, always precedes and accompanies the eruption; and, while the miliary eruption attends many different diseases, it never, however, appears in any of these but after sweating; and in persons labouring under the same diseases it does not appear, if in such persons sweating be avoided. It is therefore probable, that the eruption is the effect of sweating; and that it is the effect of a matter not before prevailing in the mass of blood, but generated under particular circumstances in the skin itself. That it depends upon particular circumstances of the skin, is also probable from its being observed, that the eruption seldom or never appears upon the face, although it affects the

whole of the body besides ; and that it comes upon those places , especially which are more closely covered ; and that it can be brought out upon particular places by external applications.

It is to be observed, that this eruptive disease differs from the other exanthemata in many circumstances, especially the following : that it is not contagious, and therefore never epidemic ; that the eruption appears at no determined period of the disease ; that the eruption has no determined duration ; that successive eruptions frequently appear in the course of the same fever, and that such eruptions frequently recur in the course of the same person's life. All this renders it very probable, that, in the miliary fever, the morbid matter is not a subsisting contagion communicated to the blood, and thence, in consequence of fever and assimilation, thrown out upon the surface of the body, but a matter occasionally produced in the skin itself by sweating.

This conclusion is further rendered probable from hence, that, while the miliary eruption has no symptoms or concurrence of symptoms peculiar to itself, it, upon occasions, accompanies almost every febrile disease, whether inflammatory or putrid, if these happen to be attended with sweating ; and from thence it may be presumed, that the miliary eruption is a symptomatic affection only, produced in the manner we have said.

But as this symptomatic affection does not always accompany every instance of sweating, it may be proper to enquire, what are the circumstances which especially determine this eruption to appear ? And to this Dr. Cullen gives no full and proper answer. He cannot say that there is any one circumstance which in all cases gives occasion to this eruption ; nor can he say what different causes, in different cases, may give occasion to it. There is only one observation that can be made to the purpose of this enquiry ; and it is, that these persons sweating, under febrile diseases, are especially liable to the miliary eruption, who have been previously weakened by large evacuations, particularly of blood. This will explain why it happens to lying-in women more frequently than to any other persons ; and to confirm this explanation, he has observed, that the eruption has happened to other women, though not in child-bed, but who had been much subjected to a frequent and copious menstruation, and to an almost constant *fluor albus*. He has also observed it to have happened to men in fevers, after wounds from which they had suffered a great loss of blood.

Further, that this eruption is produced by a certain state of debility, is, he thinks, probable, from its so often attending fevers of the putrid kind, which are always attended with great debility. It is true, that it also sometimes attends inflammatory diseases, when it cannot be accounted for in the same manner ;

but he believes it may be observed, that it especially attends those inflammatory diseases in which the sweats have been long protracted, or frequently repeated, and which have thereby produced a debility, and perhaps a debilitating putrid diathesis.

That, however, the miliary eruption is not necessarily or even generally connected with a certain state of debility, is abundantly evident from its being entirely wanting in by much the greater number of instances of typhoid fever, and in a variety of other diseases where every possible degree of debility occurs: and that it is not connected with any certain state of debility, still farther appears, both from the condition of those affected with it in different instances, which in point of strength is very various; and likewise from the continuance of fresh eruptions with the same individual, although during that time in very different states with respect to debility. It appears, therefore, much more probable, that it depends on some peculiar state of the surface, induced by the concurring influence of certain predisposing and occasional causes.

It appears so clearly that this eruption is always a symptomatic and facilitious affection, that Dr. Cullen is persuaded it may be, in most cases, prevented merely by avoiding sweats. Spontaneous sweatings, in the beginning of diseases, are very rarely critical; and all sweatings not evidently critical, should be prevented, or at least moderated; and the promoting them, by increasing external heat, is commonly very pernicious. Even critical sweats should hardly be encouraged by such means. If, therefore, spontaneous sweats arise, they are to be checked by the coldness of the chamber; by the lightness and looseness of the bed-clothes; by the persons laying out their arms and hands; and by their taking cold drink: and in this way Dr. Cullen thinks he has frequently prevented miliary eruptions, which were otherwise likely to have appeared, particularly in puerperal women.

But it may happen, when these precautions have been neglected, or from other circumstances, that a miliary eruption does actually appear; and the question will then be put, how the case is to be treated? This is a question of consequence; as there is reason to believe that the matter here generated is often of a virulent kind; it is often the offspring of putrescency; and, when treated by increasing the external heat of the body, it seems to acquire a virulence which produces those symptoms mentioned above, and proves certainly fatal.

It has been an unhappy opinion with most physicians, that eruptive diseases were liable to be hurt by cold; and that it was therefore necessary to cover up the body very closely, and thereby increase the external heat. We know now that this is a mistaken opinion; that increasing the external heat of the body is very ge-

nerally mischievous; and that several eruptions not only admit, but require the application of cold air. Dr. Cullen is persuaded, therefore, that the practice which formerly prevailed in the case of miliary eruptions, of covering up the body closely, and both by external means and internal remedies, encouraging the sweatings which accompany this eruption, was highly pernicious, and commonly fatal. He is therefore of opinion, that even when a miliary eruption has appeared, in all cases in which the sweating is not manifestly critical, we should employ all the means of stopping the sweating that are mentioned above; and he has sometimes had occasion to observe, that even the admission of cool air was safe and useful.

This is, in general, the treatment of miliary eruptions: but at the same time, the remedies suited to the primary disease are to be employed; and therefore, when the eruption happens to accompany inflammatory affections, and the fulness and hardness of the pulse or other symptoms shew an inflammatory state present, the case is to be treated by blood-letting, purging, and other antiphlogistic remedies.

Upon the other hand, when the miliary eruption attends diseases, in which debility and putrescency prevail, it will be proper to avoid all evacuations, and to employ tonic and antiseptic remedies, particularly the Peruvian bark, cold drink, and cold air.

The most distressing circumstance attending this affection, is the almost unsupportable sickness at stomach which frequently occurs, and which is often observed to precede fresh eruptions taking place during the course of the disease. With the view of counteracting and alleviating this symptom, recourse is had to wine and other cordial medicines. But with many patients nothing is found to have so much influence as the use of camphor, particularly when introduced gradually in small doses, under the form of the *mistura camphorata* of the London Pharmacopœia, or of the *emulso camphorata* of that of Edinburgh.

We shall conclude this subject with observing, that the venerable octogenarian practitioner de Fischer, when treating of this subject, in laying down the indications of cure, has given this as one of them: "Excretionis periphericæ non primariam habere rationem."

GENUS XXXII. SCARLATINA.

SCARLET FEVER.

Scarlatina, Sauv. gen. 98. Vog. 39. Sag. 294. Junck. 75.

Sp. I. The Mild SCARLET FEVER.

Scarlatina febris, *Sauv. sp. 1. Sydenham, sect. vi. cap. 2.*

Sp. II. The SCARLET FEVER with *Ulcerated Sore Throat,*

Scarlatina anginosa. *Withering on the Scarlet Fever.*

The mild Scarlet fever is described by Sydenham, who tells us that he can scarce account it a disease; and indeed nothing more seems to be necessary in the treatment of it than an antiphlogistic regimen, avoiding the application of cold air and cold drink. The disease, however, sometimes rages epidemically, and is attended with very alarming symptoms, bearing no small resemblance to the cynanche maligna, in which case it is called *scarlatina anginosa*.—The best description of this was published by Dr. Withering in the year 1778. This disease made its appearance, we are told, at Birmingham and the neighbouring villages, about the middle of May, 1778. It continued in all its force and frequency to the end of October; varying, however, in some of its symptoms as the air grew colder. In the beginning of November it was rarely met with; but towards the middle of that month, when the air became warmer, it increased again, and in some measure resumed those appearances it possessed in the summer-months, but which it had lost during the cold winds in October.

It affected children more than adults; but seldom occurred in the former under two years of age, or in the latter if they had passed their fiftieth year.

1. *Description.*] With various general symptoms of fever, the patient at first complains of a dejection of spirits, a slight soreness or rather stiffness in the neck, with a sense of straightness in the muscles of the neck and shoulders, as if they were bound with cords. The second day of the fever this soreness in the throat increases, and the patients find a difficulty in swallowing; but the difficulty seems less occasioned by the pain excited in the attempt, or by the straightness of the passage, than by an inability to throw the necessary muscles into action. The skin feels hot and dry, but not hard; and the patients experience frequent, small, pungent pains, as if touched with the point of a needle. The breath is hot and burning to the lips, and thirst makes them wish to drink; but the tendency to sickness, and the exertions necessary in deglutition, are so unpleasant, that they seldom care to drink much at a time. They have much uneasiness also from want of rest during the night. In the morning of the third day, the face, neck, and breast, appear redder than usual: in a few hours this redness

becomes universal; and increases to such a degree of intensity, that the face, body, and limbs, resemble a boiled lobster in colour, and are evidently swollen. Upon pressure the redness vanishes, but soon returns again. The skin is smooth to the touch, nor is there the least appearance of pimples or pustules. The eyes and nostrils partake more or less of the general redness; and in proportion to the intensity of this colour in the eyes, the tendency to delirium prevails.

Things continue in nearly this state for two or three days longer, when the intense scarlet gradually abates, a brown colour succeeds, and the skin becoming rough, peels off in small scales. The tumefaction subsides at the same time, and the patients gradually recover their strength and appetite.

During the whole course of the disease, the pulse is quick, small, and uncommonly feeble; the urine small in quantity: the sub-maxillary glands somewhat enlarged and painful to the touch. The velum pendulum palati, the uvula, the tonsils, and gullet, as far as the eye can reach, partake of the general redness and tumefaction; but although collections of thick mucus, greatly resembling the specks or sloughs in the putrid sore throat, sometimes occur, yet those are easily washed off, and real ulcerations of those parts were never observed.

These are the most usual appearances of this disorder: but it too frequently assumes a much more fatal form. In some children the delirium commences in a few hours after the first attack; the skin is intensely hot; the scarlet colour appears on the first or second day, and they die very early on the third. Others again, who survive this rapid termination, instead of recovering, as is usual, about the time the skin begins to get its natural colour, fall into a kind of lingering, and die at last in the course of six or eight weeks.

In adults, circular livid spots were frequently observed about the breast, knees, and elbows; also large blotches of red, and others of white intermixed, and often changing places.

In the month of October, when the air became colder, the scarlet colour of the skin was both less frequent and less permanent. Many patients had no appearance of it all; whilst others, especially adults, had a few minute red pimples, crowned with white pellucid heads. The inside of the throat was considerably tumefied; its colour a dull red, sometimes tending to a livid. The pulse beat in general a hundred and thirty, or a hundred and forty strokes in a minute; was small, but hard, and sometimes sufficiently so to justify the opening of a vein; and the blood thus taken away, in every instance when cool, appeared fizy, and the whole crassamentum firm.

Happy would it be, Dr. Withering observes, if the baneful influence of this disorder terminated with the febrile symptoms.

But in ten or fifteen days from the cessation of the fever, and when a complete recovery might be expected, another train of symptoms occur, which at last frequently terminate fatally. The patients, after a few days' amendment, feel a something that prevents their farther approach to health; an unaccountable languor and debility prevail, a stiffness in the limbs, an accelerated pulse, disturbed sleep, disrelish to food, and a scarcity of urine. These symptoms, we are told, are soon succeeded by swelling, of a real dropical nature, forming sometimes an anasarca, and on other occasions an ascites; and not unfrequently scarlatina has proved fatal from supervening hydrothorax in consequence of the effusion of water into the chest. It is unnecessary to remark, that when this happens, a fatal termination is more sudden than from any other modification of dropsy.

2. *Distinctions.*] Dr. Withering, after examining the accounts of this disease by authors, proceeds to the diagnosis. It may be distinguished, he observes, from the petechial fever, by the eruption in the latter appearing seldom before the fourth day, by the regularity and distinctness of the spots, and by its principally occupying the neck, the back, and the loins. On the other hand, in the scarlet fever, the eruption generally appears about the third day; consists either of broad blotches, or else one continued redness, which spreads over the face and the whole body.

In the fever called *purpurea*, the pustules are prominent, keep their colour under pressure, and never appear early in the disease; whereas, in the scarlet fever, the eruption appears more early, is not prominent, but perfectly smooth to the touch, and becomes quite white under pressure.

Although the *purple fever* and *scarlatina* may be connected by some general cause, yet our author takes occasion to observe, that they cannot be mere modifications of the same eruption; for examples occur, he says, of the same person being first seized with one of these disorders, and afterwards with the other; but he never met with an instance of the same person having the scarlet fever twice; and he believes it to be as great an improbability as a repetition of the small-pox.

This disorder is particularly distinguished from the *measles*, we are told, by the want of that cough, watery eye, and running at the nose, which are known to be the predominant symptoms in the early state of the measles, but are never known to exist in the scarlatina.

From the *erysipelas* this disease is distinguishable by the limited seat of the former, together with its not being contagious.

The *ulcerated sore throat*, however, is more difficult to distinguish from this disease than any other; and yet the distinction is a matter of the greatest importance, as the method of treatment, according to Dr. Withering, ought to be extremely differen

But although, in a number of circumstances, these two diseases bear a very great resemblance, yet, with a little attention, the one may in general, he thinks, be distinguished from the other. From Dr. Fothergill's account of the sore throat attended with ulcers, our author has made out the following characteristical circumstances of the two diseases, contrasted to one another :

Scarlatina Anginosa.

Season. Summer . . Autumn.

Air. Hot . . Dry.

Places. High . . Dry . . Gravelly.

Subjects. Vigorous . . Both sexes alike . . Robust in most danger.

Skin. Full scarlet . . Smooth . . If pimpled, the pimples white at the top . . Always dry and hot.

Eyes. Shining, equable, intense redness, rarely watery.

Throat. In summer, tonsils, &c. little tumefied; no slough . . In autumn more swelled. Integuments separating . . Slough white.

Breath. Very hot, but not fetid.

Voice. In summer, natural.

Bowels. Regular at the accession.

Blood. Buff . . Firm.

Termination. The 3d, 5th, 8th, or 11th day.

Nature. Inflammatory.

Angina Gangrenosa.

Season. Spring . . Winter.

Air. Warm . . Moist.

Places. Close . . Low . . Damp . . Moist.

Subjects. Delicate . . Women and female children. Robust adults not in danger.

Skin. Red tinge . . Pimpled . . The pimples redder than the interstices . . Bedewed with sweat towards morning.

Eyes. Inflamed and watery, or sunk, and dead.

Throat. Tonsils, &c. considerably swelled and ulcerated . . Sloughs dark brown.

Breath. Offensive to the patients and assistants.

Voice. Flat and rattling.

Bowels. Purging at the accession.

Blood. Florid . . Tender.

Termination. No stated period.

Nature. Putrid.

It is not pretended, Dr. Withering remarks, that all the above contrasted symptoms will be met with in every case. It is enough, he observes, that some of them appear, and that, if conjoined with the consideration of the prevailing constitution, they enable us to direct that mode of treatment which will most contribute to the relief of the sick.

But notwithstanding the attention which Dr. Withering has bestowed upon this subject, we are still inclined to think, that the disease which he has so accurately described under the title of *scarlatina anginosa*, is in reality the same affection with the malignant ulcerous sore throat of Huxham and Fothergill. During different epidemics, this disease, like the small-pox and

measles in different seasons, is considerably varied in its appearance. But still there occurs such a similarity as clearly marks the sameness of the affection. And indeed this, as in the case of the small-pox, is abundantly demonstrated, by infection from one contagion giving protection against succeeding ones, although the appearances be much varied. This has particularly appeared at Edinburgh, where the disease prevailed as an epidemic on three different years, viz. 1774-5, 1782-3, and 1789-90. During the first of these, in the greater number of patients, the fore throats were of a very gangrenous malignant nature: during the second, the disease more commonly appeared under the form of what might be called *simple scarlatina*: and during the third epidemic, the contagion was, if we may be allowed the expression, of an intermediate nature. But it is further to be remarked, that during every one of those epidemics, when several children of a family were at the same time subjected to the infection, in one the disease would have been attended with almost all the symptoms mentioned in the column of *scarlatina anginosa*, with respect to skin, eyes, throat, breath, bowels, terminations of the affections, &c.: in another would have occurred all the symptoms with respect to those particulars which he has mentioned under the column of *angina gangrenosa*: while at the same time, in numberless instances, even in the same patient, the disease at its commencement has shewn evident marks of an inflammatory, and at its termination of a putrid tendency. And there cannot be a doubt, that both the scarlatina anginosa and angina gangrenosa, as described by Fothergill and Huxham, have occurred in every season and situation, and have affected persons of every age and constitution not before subjected to either disease.

3. *Causes, &c.*] 1. Dr. Withering affirms, that the immediate cause of this disease is a poison of a peculiar kind, communicable by contagion.

2. That this poison first takes possession of the mucous membrane lining the fauces and the nose; and either by its action upon the secretory glands, or upon the mucus itself, assimilates that mucus to its own nature.

3. That it is from this beginning, and from this only, that it spreads to the stomach, &c. and at length acts upon the system at large.

4. That its first action upon the nerves is of a sedative or a debilitating nature.

5. That, in consequence of certain laws of the nervous system, when the debilitating effects operate upon the sensorium commune, a reaction takes place; and that this reaction is, *ceteris paribus*, proportioned to the debilitating power.

6. That, in consequence of this reaction of the nervous system, the vibratory motion of the capillary blood-vessels dependent there-

on is greatly increased; an unusually large quantity of blood is accumulated in those vessels; the heart and large blood-vessels are deprived of their customary proportion; and hence, though stimulated to more frequent contraction, the pulse must necessarily be feeble.

7. That, as violent exertions are followed by debility, upon the cessation of the fever, the capillary vessels, which had acted with such unusual violence, are left in a state of extreme debility, and are long in recovering their tone: hence it is that so many patients afterwards become dropical.

Dr. Withering next proceeds to the consideration of the different remedies, which either are in common use or have been recommended as proper in this disease.

4. *Cure.*] Blood-letting has been recommended by authors; but such was the state of the pulse in this disorder, at least during the summer months, that it was not in any instance thought advisable to take away blood. In some cases, indeed, where the fiery redness of the eyes seemed to demand the use of leeches, they were had recourse to, but never with any advantage. In the harvest months, when the pulse was more firm, and when suffocation seemed to be threatened from the swelling in the fauces, blood-letting was sometimes advised; but still with less advantage than one would have expected in almost any other situation.

Vomiting. This, our author observes, seems to be the remedy of nature; and he is surprised how it should have been omitted by several authors who have gone before him. Vomiting, he says, most amply fulfils the indications arising both from a consideration of the cause and of the effects; and a liberal use of this remedy he holds forth as the true foundation for successful practice in scarlet fever and sore throat. His common form of emetic is a combination of tartar emetic and ipecacuanha, given in pretty smart doses; and these are to be repeated at least once in forty-eight hours, and in the worst cases so often as twice in the twenty-four hours.

Purging. The action of purgatives is considered by Dr. Withering as altogether repugnant to the curative indications in this disease: for the poison, as formerly remarked, being received into the system by the fauces, the operation of a purge, instead of discharging it, can only promote its diffusion along the alimentary canal; and in fact, we are told, that, when even a spontaneous purging supervenes in this disease, the patient's sink so amazingly fast, that it is not within the reach of art to support them. When, however, a considerable quantity of acrid matter, passing from the fauces into the stomach, makes its way to the rectum, a considerable degree of looseness often takes place. And although evacuations from the system in general by means of cathartics may be hurtful, yet patients often obtain great relief from a free dis-

charge of this matter; and by discharging it purgatives have the effect even of preventing an evacuation from the system, which would otherwise take place.

Sudorifics. Cordials. Alexipharmics. None of these medicines were found beneficial. With respect to cordials, Dr. Withering observes, that although they seem to be indicated by the great loss of strength and feeble pulse, yet the certain consequence of their use always was an increase of restlessness, of the delirium, and of the heat.

Diuretics. These were found very beneficial. The vegetable fixed alkali is recommended as the most proper article of this kind. A dram or two may be easily swallowed every twenty-four hours, by giving a small quantity in every thing the patient drinks. Diuretics, however, have been found principally serviceable, by practitioners in general, in those cases where the urine is observed to be scanty, and where dropical symptoms have taken place.

Cinchona. No medicine, we are told, ever had a fairer trial in any disease than the Peruvian bark had in this epidemic; for the feeble pulse, great prostration of strength, with here and there a livid spot, were thought to be such undeniable evidences of a putrid tendency, that the bark was poured down with not a sparing hand. But this was only at first: for these livid spots and the sloughs in the throat being found to be the effects of inflammation, instead of putrefaction, and the bark, instead of diminishing, rather increasing these symptoms, it was at last entirely laid aside by Dr. Withering in his practice. But although Peruvian bark may not have been successful with a particular epidemic at a particular place, yet, from the concurring testimony of many practitioners, it is very commonly found to be productive of good effects; and there is perhaps no remedy in which greater dependence is in general put, particularly in the advanced periods of the disease, where the fetor is considerable.

Upon the same principles that the bark was prescribed, fixable air was at first likewise advised, but with no evident effects either one way or another. Dulcified acids were also had recourse to, but with no advantage.

Opiates. These, although recommended by some authors for the removal of inquietude and watchfulness, yet in this epidemic, instead of effecting these purposes, always increased the distress of the patient.

Blisters. In the summer appearance of the disease, blisters were universally detrimental; they never failed to hasten the delirium, and if the case was of the worst kind, they too often confirmed its fatal tendency. But although this may have been the case during the epidemics which Dr. Withering describes, it has

by no means been generally observed. On the contrary, by the early application of blisters to the external fauces, both the glandular swellings and likewise the discharge from the mouth and fauces have been much diminished; and practitioners have believed, not without probable reason, that the after-affections of the throat were less considerable than would otherwise have been the case. Dr. Withering allows, that in the autumnal season, when the inflammation was less generally diffused through the body, they were less detrimental; but he thinks that they did not here produce any beneficial effects.

Injected gargles, such as (No. 59.) or (No. 77.) or those prepared of contrayerva decoction, sweetened with oxymel of squills, &c. will be found very beneficial in bringing away large quantities of viscid ropy stuff from the fauces.

The immersion of the feet and legs in warm water, although it did no harm, yet did not either procure sleep, or abate the delirium, as it frequently does in other kinds of fever.

As in summer it was found difficult to keep the patients sufficiently cool, they were ordered to lie upon a mattress instead of a feather-bed; a free circulation of air was kept up; and, where the patient's strength would admit of it, they were ordered frequently out of doors. Animal food and fermented liquors were denied them, and nothing allowed but tea, coffee, chocolate, milk and water, gruel, barley-water, and such articles.

With respect to the dropical disorder which so frequently succeeds to this complaint, it was never observed, Dr. Withering remarks, when the preceding symptoms had been properly treated.

When called upon to patients in the dropical state, he began his practice by a dose of calomel at night, and a purgative in the morning. When a febrile pulse attended the other symptoms, emetics were useful, as well as the saline draughts and other neutral salts. When great debility, comatose or peripneumonic symptoms, occurred, blisters were found very serviceable; but when dropical symptoms were the principal cause of complaint, small doses of rhubarb and calomel were advised; recourse was also had to diluted solutions of fixed alkalies, squills, Seltzer water, and other diuretics.

When the urine flows freely, steel and other tonics are recommended; together with gentle exercise, high-seasoned food, wine, and the wearing of flannel in contact with the skin.

Dr. Withering recites a number of cases, treated according to the principles above laid down. The successful termination of these cases demonstrates the propriety of the practice which he has recommended; at least for the epidemic under the form which it then appeared.

W. B. B. followed Dr. Withering in his ideas of this

disease ; but as its appearance at different periods has been attended with circumstances of some *variety*, it may not be improper to present the reader with an account of the scarlatina anginosa, as it appeared in London in the year 1786; published by Dr. James Sims, in the Memoirs of the Medical Society of London.

“The scarlatina anginosa,” says the doctor, “having been epidemic in London and its vicinity, during the last half of the year 1786, and having been attended with considerable mortality, especially amongst children, a concise description of it may not be unworthy the attention of the public. After having said that it occasioned great mortality, it must appear surprising that only nineteen deaths are put down to the account of sore throat in the bill of mortality for the whole year; but it is to be noticed that in the same bill seven hundred and ninety-three deaths are placed under the head of measles, which is a greater number in proportion to the whole deaths than ever happened in one year. It is further to be remarked, that the measles were not perhaps in London during the whole year; at least I imagine they could not be very common, since I did not see a single instance of them, although I saw above two thousand patients in that time in my private practice, and in that of the general dispensary, which differs from that of hospitals in shewing us disorders as they occur in the houses of individuals. The resemblance between the scarlet eruption in this fever and that of the measles may easily account for the mistake of unscientific searchers, since perhaps even Morton himself confounds them in his description of spurious measles, which from his account of the angina attending them, seem to be no other than the disease of which we are now treating.

“Another observation occurring from the bills of mortality is, that the article of fever, comprehending scarlet and spotted fever, is vastly increased above what it has been any year for a dozen preceding ones. Under this head therefore a large number of the deaths by this disease are probably included.

“To give some adequate idea of the virulence of this malady, I shall only mention that whatever house it found a footing in, it never left until it had visited every young person, and most of those advanced in life; so that many families lost two children, some more; and I have reason to suppose, that many grown persons fell victims to it, who were supposed to die of common fevers; which circumstance shall be more particularly noticed in the sequel.

“The summer of 1783 was the warmest that had been felt for a series of years, and was attended by an uncommon quantity of thunder, at least in the vicinity of London. Two most remarkable meteors likewise appeared, of which descriptions may be seen in the Philosophical Transactions: this was succeeded by

two of the frostiest winters that had been known since the year 1740. The spring and beginning of the summer which succeeded the last of these, namely, that of 1785, was exceedingly dry, so as to occasion in most countries a great scarcity of grass: since that time the weather has been very wet and rainy, few fair days occurring even in the summer or autumn of 1786. How far this series of weather operated in propagating the disease we are treating of, shall be the subject of future consideration.

“ The first case that I saw of this disorder was in the month of March, 1786, when there was snow lying on the ground. It attacked a young gentleman in the neighbourhood of Camberwell, and confined him to his bed about twelve days, after which he recovered slowly his former state of health. The scarlet efflorescence was considerable, and his throat was much inflamed, and threw off some sloughs. Though it appeared most of the inflammatory nature, yet it betrayed its malignity by infecting a female relation who came to attend him: but as she was carried home as soon as the inflammation became considerable, and as I met with no more cases of it for several weeks, it made no great impression on my mind.

“ In the month of May, I attended a young lady at a boarding-school in Hampstead, who had a sore throat, but no scarlet eruption; the inflammation almost disappeared and returned alternately for the space of several weeks, and had so little of a putrid or malignant appearance, that when the most serious consequences followed it afterwards, I did not at first ascribe the effects to her.

“ By this spark, however, a violent flame was apparently kindled; for, all at once, in the month of June, several young ladies in the same school were affected, and the infection made such progress, that in a short time above twenty were seized with the disease in a violent degree, besides many more who had it lightly. At that time it prevailed in a smaller degree in some other villages about London, but did not make any considerable progress in the capital until the month of August, from which time until the end of the year, it increased to a very great degree: so that in the general dispensary, and in private practice, I have seen above three hundred cases of it.

“ The disease being most prevalent among children and young persons, I shall first delineate its appearance in them, and principally under the mode of treatment hereafter to be described; for under a different mode I have not a doubt that the appearances would have differed. This is a circumstance too frequently mistaken by authors, who describe as universal, those symptoms which only occur when a complaint is managed in their particular manner; by which means those who see it when treated differ-

ently, are often led to deny its being the same, and many needless varieties, if not species, and even *genera*, of diseases are created.

“ The first symptom which usually pointed out to the family the access of the disorder was a great sickness of the stomach, with a very copious bilious vomiting; yet, though this was the first thing that alarmed by-standers, I have reason to say, with almost certainty, that it was preceded by other symptoms. In many families where some have been confined with the disease, I have had an opportunity of observing the first, and most minute approach of it in others, and there always found that the first marks of its approach were a paleness and dejection of countenance; and if the fauces were inspected, the under edge of the *velum pendulum palati*, was considerably redder than natural. The pulse at this time was rather disturbed and hurried than feverish; in some the uvula was more inflamed, and the tonsils a little swelled, so as to give a slight degree of pain in swallowing; this pain and inflammation, however, varied on different days, so as to give frequently hopes of the disorder going entirely off; and I have reason to think that it often did go off under a treatment hereafter to be mentioned, without ever gaining greater ground. In very many, however, after remaining in this uncertain variable state for several days, the sickness and vomiting came on suddenly, and the disease was completely formed.

“ Immediately after the vomiting, or at least the next morning, a considerable redness of the face appeared, the eyes likewise were somewhat inflamed, but not watery as in the measles; the pulse at this time was considerably quicker and fuller than ordinary. On inspecting the throat, a tumor of the tonsils was now very evident, attended with a florid redness, which spread over the whole *velum pendulum*, *uvula*, tongue, and that part of the palate adjoining the *velum*. Most complained of a slight pain in deglutition, and a few, of a considerable pain, obviously from the greatness of the tumor, which in them was very large.

“ The redness which had shewn itself in the face, soon began to spread over the rest of the body, and particularly the arms, so that in the space of twenty-four hours it was become pretty universal. In many it was spread very evenly, in which case it was simply of a red colour; but in others, especially where the fever was somewhat higher, it appeared in large blotches, of a scarlet, or fiery red colour, which were raised above the skin, or rather the place where they were was elevated and swelled. These blotches usually disappeared in the parts where they were first seen, in a day or two; afterwards appearing in another, and so on for many days; nay, I have known them continue thus above a fortnight, and in a very few instances, after all the symptoms were abated, and the disorder apparently almost gone off, I have

seen a fresh crop of them with a reiteration of the former complaints.

“ By the third day of the disease the redness was at its height, scarcely admitting of any increase afterwards. This was by no means the case with the *Angina*, for soon after the first redness appeared on the tongue and fauces, a prodigious secretion, of a tough, whitish mucus, from these parts, took place, which speedily overspread them, covering them with a thick tenacious slough. This phlegm might be expected to raise a constant cough and endeavour to spit it out; but that was by no means the case, as very few patients seemed to be incommoded thereby, or have much desire to get rid of it.

“ About the fourth day, whilst the efflorescence usually continued the same, or was begun to decline, the complaints about the throat were on the increase. The most frequent appearance was a great swelling of the tonsils, which looked very red and inflamed, but not ulcerated, as did also the adjacent parts. There were, however, in many cases considerable ulcers to be seen on the tonsils and *velum pendulum*, particularly where it hangs from the bones, spreading sometimes along these bones for a little way.

“ I should have mentioned that these ulcers were often to be seen, in a small degree, on the third day; nay, I have seen them in two or three bad cases on the second morning; and there was, I believe, an appearance often preceding them from whence they might to a certainty be prognosticated. This was a somewhat raised, circumscribed, deep purple appearance of the parts, which did not look like sound flesh, but had that puffy look which we see in what is commonly called proud flesh. The ulcers were covered with an ash-coloured slough, which sometimes assumed a livid or blackish colour; this change I at first ascribed to greater malignity, and expected a fatal event; but not finding this conjecture verified in the event, I came to disregard this appearance.

“ On the fifth day, usually, all the appearances about the mouth and throat were at the height; the swelling of the tonsils was now greatest; the ulcers, if there were any, largest and darkest coloured, and the difficulty of swallowing most observable; the voice likewise was manifestly altered, being often snuffling through the nose: this alteration I first ascribed to the same cause as in a common cold, and expected it to be exactly in proportion to the size of the swellings about the tonsils. This expectation was also verified in many who had great swellings there; the alteration beginning on the second or third day, increasing as the tumors rose, and lessening as they declined, and went away. Yet a number of the worst cases shewed this not to be exactly the matter of fact; in them the voice being notably altered, although there either had been no apparent swelling there, or at least what

little there had been was totally gone, and the parts had assumed a tolerably healthy look. The quantity of phlegm and viscid matter with which their mouths were now filled, especially infants and relaxed women, was almost inconceivable, and they were no sooner freed from it than it was re-produced in as great quantity as before; so that clearing their throats and mouths of it, was an endless, and apparently a needless trouble, as it did not accumulate by being let alone, nor did the patients seem to feel any inconvenience from it, as they always shewed a great reluctance to the having it meddled with.

“ This phlegm was mostly only remarkable for its extreme tenacity; sometimes, however, it was about the height of the disease, and afterwards, mixed with blood. I have likewise seen, in bad cases, lumps as large as walnuts spit up, or rather dragged out of the mouth, of a firm consistence, and reddish, looking exactly like the coagulable lymph of the blood mixed with some of the red particles. These lumps seemed to come both from the *trachea* and *œsophagus*, as in all the cases where I saw them, there was both a difficulty of breathing and also of swallowing, which latter in some went so far as totally to hinder them from taking any solid food, the pain and straightening of the passage being lower than the *pharynx*. ”

Dr. Sims next mentions some other symptoms which accompanied it from the beginning.

“ As inspecting the fauces,” says he, “ to see the various changes from day to day, led me often to depress the tongue, I could not but observe, that all from the very beginning complained of that depression giving them great pain, much more indeed than I had ever observed in common quinries, though attended with vastly greater swelling and inflammation. Children marked their reluctance in the most striking manner by their cries and struggles; indeed all, even to the eldest, shewed great aversion to the having their mouths or fauces at all meddled with. This pain and reluctance continued several days after the disorder had been at the height, as did also the inability to take solid food, mentioned in a former paragraph.

“ As soon as the phlegm appeared very copiously in the fauces, a discharge of matter took place from the nose in many; this resembled in colour what came from the mouth, but was much thinner and less tenacious. The nose in these was evidently sore, and they complained of great pain in having it even gently wiped; the under part of it and the upper lip were often swelled, red, and excoriated by this discharge, which continued mostly several days after the disorder began to decline.

“ It may appear to many, that this is a very imperfect account of so considerable an epidemic, which raged so universally; but

this opinion will cease on reading the following list of symptoms which did not appear. And first, there was no great degree of fever attendant upon the disorder; the pulse was at the first strong, but as the disorder advanced it lost in strength what it gained in quickness, and at the height was indeed very quick, but neither remarkable for its strength nor weakness; and that being over, it fell quickly, often in twenty-four hours, to its natural standard. The heat of the skin was mostly not considerable; it was greatest when the efflorescence was at the height, and declined with that; or if it failed to do so, the disorder never went off in a kindly manner. There was scarcely ever any degree of thirst, so that many, especially children, could not be prevailed on to drink enough to keep their throats in seemingly proper plight for deglutition; or even those more advanced never took drink except when put in mind of it. Another remarkable circumstance as to their drink was, that when asked what they chose, they almost universally, even to the children who lisped their words, mentioned wine or porter. They had mostly no appetite, yet on being pressed to it could get down any liquid food without great disrelish; and some shewed a desire for strong and relishing dishes; they were almost never either costive or purged; their breathing, except in a few bad cases, was never difficult or laborious; their breath was never fetid, or particularly offensive; they all slept well, in general much more than natural, not excepting those who died of it: it must be remarked, however, that this catalogue of favourable symptoms is only to be referred to those cases that were treated in the mode hereafter to be mentioned, as it was evident enough that those who were treated differently had abundance of malignant symptoms.

“ On the sixth day usually, in some a little later, the disorder began to decline; the efflorescence had by this time in most persons completely disappeared; the swellings of the tonsils gradually began to subside; the phlegm was becoming less tenacious, and separated with ease from the fauces, as did the sloughs from the ulcers, leaving them, in part raw, but of a clear healthy red, which in a day or two was the situation of all within the mouth; the pulse quickly came to its natural standard. About this time many had some laxative motions, passing a similar mucous matter to that discharged from the mouth and nose; these, however, did not weaken the patient, and after a gentle dose of rhubarb they entirely ceased. The appetite returned, but not to that degree of voraciousness that I have often seen after feverish complaints; so that by the eighth or ninth day health seemed to be restored, except that a considerable degree of weakness remained for a time in those advanced in life who had been severely afflicted with the disorder. As soon as the amendment was very evident, the inclination for porter and wine entirely ceased, and

many children who had before drank it greedily, could not be brought to taste a drop.

“ This was the course run by the disorder in the summer : as the harvest however advanced, there was some variation observable in it ; a frequent short hicking cough took place in many ; they did not bring up any matter with it, nor did each fit last beyond one or two short expectorations, but these were repeated several times in a minute ; many who had no appearance of pitting, and but the slightest possible appearance of *Angina*, had this cough more troublesome than those who had much of either. Another circumstance at this time of the year, I mean in November and December, was, that a few days after the apparent change of the disorder, a swelling attacked the face, but more frequently the extremities, attended with most excruciating pain. This swelling was neither red, puffy, nor œdematous, and did not depend upon the previous mode of treatment, as it occurred in those who had been treated in the most different manners. Some first complained of a violent tooth-ach ; after two or three days they often complained of an equally violent pain in the back, the first one gradually subsiding. In a day or two more, or even sooner, the pain attacked their elbows, wrists, and hands, which were usually the last parts attacked ; these pains, in some patients, were only in the hands and arms. The last difference I shall mention in this disease, was a swelling of the parotid glands ; I mention this here, because the first case where I saw this swelling in any degree, occurred after the middle of September. This swelling was sometimes apparent in the beginning of the complaint, at other times it came on about the fifth day with great pain, protracting the disease ; and in many it came after the efflorescence had entirely disappeared, bringing it in some degree, and all the feverish symptoms, back with it. Though this swelling was attended with great pain, I did not see one case of its suppurating, any more than I did of the tonsils inwardly undergoing the same process, although I have heard this mentioned by some practitioners ; but I am inclinable to think, we only differed about the meaning of the term, for I have seen cases where the tonsils, after being greatly swelled, have pretty rapidly subsided, whilst the persons have spit up disagreeable phlegm more copiously and freely ; and if they mean this by suppuration, there is no difference between us. I would not, however, call this a suppuration, because what was spit up had no appearance of *pus*, as in *Anginas*, that I have seen really suppurate ; nor could the formation of matter be at all seen in the part, as I have perceived in other quinsies ; I therefore think this was only a resolution of the inflammation, wherein the parts being relaxed, a more copious secretion, and freer excretion, took place.

“ I should mention here, that, both in the cases attended with

the pains already mentioned, and those with the parotids, the pulse was more violent and inflammatory than in any other cases I have seen.

“ There was one symptom which I saw in several cases follow the crisis of this disease, and which deserves to be particularly noticed. This was a most inconceivable degree of *languor*, which attacked the patient in an instant when all disorder seemed almost gone; it was without pain or uneasiness, nay, I may say, without dejection of spirits, for, although I have known some take a solemn leave of their families, yet it was with the utmost tranquillity, and, on being assured by me on my arrival that it was unattended with danger, they have continued for several hours whilst it lasted, conversing with those about them in the most placid cheerful manner. A watch-maker gave me the best description of this, by telling me that he felt as if all his inward works were going instantly to stop, his main-spring of life being entirely run down. I am inclinable to think, that this feeling is connected with the *Angina*, from having myself suffered it after one of the attacks of that disorder, which for many years I was subject to. As there were no other symptoms but the mere languor, I found proper encouragement given to the patients themselves, and some gentle cordials prescribed, in order to satisfy them and the by-standers, who were always more alarmed than the sufferer, together with a little *time*, a medicine that cures oftener than we are willing to acknowledge, always got the better of it.”

Dr. Sims, having gone through the manner in which the disease terminated favourably, proceeds to describe the way in which it became fatal. He says,

“ On the fourth or fifth day, in some even sooner, a great *desipientia* began to appear; this never rose to delirium, but appeared like fatuity, their eyes having a silly vacant stare, and their words scarcely having any meaning. I mention this symptom first, as being the most striking and constant one, and very different from that wandering on awaking from sleep, or rather when in a state between sleeping and waking, which many had in the more favourable species of the disease, and which often accompanies other fevers; their pulse became at the same time very quick, unequal, and weak, and in many was not to be perceived; their extremities lost their feverish heat, though far from cold; and their whole skin, instead of the scarlet, assumed a very remarkable appearance, which resembled nothing so much as that of a dead body which has been kept several days, or as if a mixture of blood and water were universally diffused under it and could be seen through it; the skin at the same time felt entirely flaccid, but without any perspiration, and though not so cold, yet like that of a corpse; they had little purging, but what-

ever they passed in that way was mostly without their knowledge, as was their urinary discharge; they seemed to have some difficulty in swallowing, at least they were exceedingly averse to make any attempt for that purpose; their breath, though far from laborious in general, yet was sometimes for a few minutes very unequal and seemingly difficult; but I have seen this inequality, though not to so high a degree, in some that recovered: a few of these had their throats loaded with an enormous quantity of viscid phlegm, which raised a rattling kind of cough, without any attempt to spit it up; but far the greater number had lost most of the morbid appearances in their throat; so that from an inspection of that alone, a person would have been inclined to pronounce them out of danger. This stage lasted but a short time, the patients mostly dying in twenty-four or thirty-six hours after it began. Though I was called to many in it (the friends never having been alarmed until the extreme weakness and faintness attending it roused them from their security), and tried a variety of the most powerful medicines, particularly cordials, blisters, and even James's powder and antimonials, I did not find any of the smallest service, and saw only one person who recovered from it: this was a woman, in whom the change appeared very late, so that it was the fourteenth day of the disease when I first saw her. In her the pulse was not to be felt, and she was totally insensible, although she had been drinking two bottles of white wine a-day for several days. As I thought the case almost desperate, on considering all the symptoms, which were those of the last stage before described, I resolved to try what leaving off wine and substituting porter in its stead might do, finding that to be the liquor she was most accustomed to; though scarcely able to articulate any words, she testified as well as she could great pleasure in the change, and drank greedily three or four quarts a-day. From this moment she began to amend, yet she was reduced so low that, although it is several months since, she has not yet recovered any tolerable share of strength or health." The way in which this disease terminated fatally, at a later period, Dr. S. takes notice of afterwards. He continues thus:

"I have hitherto mentioned the sore throat and scarlet eruption as always occurring together in this disease, but the fact is, several patients had the *Angina* without any apparent eruption, whilst, on the other hand, others had the eruption without any soreness of the throat; the former happened almost entirely to those beyond the age of puberty, whilst the latter was as much confined to the more youthful. In one child the scarlet fever appeared without any *Angina*, and having finished its course, left the patient seemingly in perfect health; but in a few days a fever returned without any eruption, but with a very considerable degree of sore throat, and much pain and swelling of the

tonsils and parotids, which likewise ran its course as if the former symptoms had never appeared. These anomalous cases happened more frequently towards the close of the year, when the varieties before mentioned likewise took place.

“ Whilst this disorder reigned among the young, and attacked some of the middle-aged, a fever, similar in many respects, was common among persons more advanced in life, which likewise attacked some of the middle-aged who had been debilitated by previous disease, long courses of weakening medicines, or finally, and more especially, by long anxiety and vexation of mind, which last is in this town a most frequent, though unsuspected cause of fatal fevers; so much so, that I am convinced that many hundreds annually are carried off here by rapid fevers caused by disappointment alone, and have likewise observed that a reputed putrid fever is the most general exit of all those who are unsuccessful in life, I mean in this town, for in the country the case is very different. This fever was exceedingly mortal, several medical men, as I have reason to believe, falling sacrifices to it. About the manner of its seizure I can say nothing from my own knowledge, not having seen one person early in it. It was usually about the seventh or eighth day of the disease when I first saw them, at which time they were in a state exactly resembling what I have described as the close of the scarlet fever. They were desipient, insensible, with a pulse scarcely to be felt, and not to be counted, and all had petechiæ; the skin of their extremities had likewise that corpse-like appearance already mentioned. On enquiry, I found that their malady had given no alarm to their friends until that moment, being usually ascribed to lowness of spirits, and many of them had not been entirely confined to their bed until within a day or two; none of them had any scarlet efflorescence, and on asking whether they had any sore throat, it was uniformly denied; yet, on a more minute investigation, I found that they had all complained of a very slight one, which, as perhaps they never mentioned it but once, made no impression on the by-standers, nor would it ever have been thought of afterwards but for the extreme exactness of my enquiries. On inspecting their fauces, I found their teeth surrounded with a dark furring, no mucus in their throat, their tongue dryish, but not remarkably foul, and in all a slightly inflamed line along the under part of the *velum pendulum* and *uvula*, exactly like what I have already described in some cases of the former fever. These patients in a day or two all sunk to rest, as I may call it, dying without struggle, or almost a groan, the strongest cordials not seeming to produce the smallest effect, and blisters in many not even raising the skin in the smallest degree. Whether this fever was the same as that before described, varied only by the age and circumstances of the patient, or was similar to those described

by Sydenham, occurring at the same time with a particular epidemic disorder, as the *febris variolosa*, which prevailed at the time the small-pox were epidemic, I cannot absolutely determine: from seeing, in two instances, the *Anginous* fever, apparently raised in a family by an elderly person who had this last-described fever; and also in a few instances from meeting with the latter, where the young part of the family had gone through the former species of fever, I should be led to suppose them only varieties of the same disease; but, on the other hand, these coincidences were so rare as to leave the matter still in doubt. Without attempting to propose any conjectures on this head, I shall proceed to describe the method of cure of the first species of fever already described, and which I call the *Scarlatina Anginosa*; premising, that but two persons died out of above two hundred in whom it was used."

The doctor had been, himself, every winter, for many years, liable to one or more attacks of the inflammatory *Angina*, and finding the copious use of vitriolic acid, topically and internally, of signal service, recommended it to his patients in the following form, relying more, however, upon its inward exhibition than upon its use as a gargle.

(No. 181.) \mathcal{R} Tinct. rosæ \mathfrak{z} ij.

Syr. Limon. \mathfrak{z} j.

Acid. vitr. dilut. gut. xx.

Misce fiat Haustus.

This draught was ordered to be taken, by an adult, every hour and half, or oftener. If nausea existed, the patient was vomited with ipecacuanha wine; if not, even though no costiveness took place, a quantity of the following, proportioned to the age and other circumstances, was exhibited:

(No. 182.) \mathcal{R} Sal. Polychrest.

Pulv. Rhabarb. aa part. æqual.

Misce fiat Pulvis.

"Upon the above-recited draughts and powders," says Dr. Sims, "I soon found reason to have such complete reliance, that in many cases I never once varied them, and even where I did make an alteration in them, it was such as continued their most efficacious parts. Thus, as the disease proceeded, I sometimes ordered a strong decoction of the bark to be substituted for the tincture of roses, and to this, if the pulse were very weak, I added some cordial confection and stomachic tincture, still however retaining as much of the spirit of vitriol as I thought convenient, and persisting in the use of the eccoprotic powder.

"During this whole course, I ordered my patients to eat moderately of any food that the stomach seemed to relish, not excepting broth or flesh, and to drink a little wine mixed with water if they felt at all low, or porter or ale if they seemed more agreeable to their palate, which was often the case. I have said

a *little* wine, because a large proportion of the sufferers being very young, did not seem to require any; and I have frequently observed in putrid cases a large quantity of wine do great mischief, where half a pint would have been highly serviceable. In all these cases we should ever keep in mind that our intention in ordering it should be to raise the strength, and that nothing debilitates so much as too large a quantity of it, which is extremely visible in a person who is intoxicated.

“ Having proceeded in this manner during the rise and height of the disease, I found it necessary to change my plan as soon as the height was passed. This was a point of the treatment as needful to be known and exactly attended to as any other in the malady; for as soon as the pulse about the sixth day began to fail to the natural standard, if the cordial medicines and regimen were persisted in, or increased with a view to keep up the sinking pulse, many vexatious or even dangerous consequences ensued; a new fever, often more violent than the first, was raised, a great swelling and inflammation of the tonsils or parotids with acute pain came on, and the scarlet eruption re-appeared as copiously as before.

“ In adapting ourselves to this change seemed one of the niceties in the treatment of the disorder; but as the change of appearances have been already pointed out, I shall not recapitulate it; suffice it to say, that as soon as the change began, I always subtracted somewhat from the wine and cordials, and quickly prohibited them entirely, diminishing at the same time the spirit of vitriol, which seemed now unnecessary, and giving the rhubarb in smaller quantity, and relying during the period of amendment upon gentle nourishing diet and broths, as the only medicines, except where some particular symptom seemed to require attention.”

In *gargles*, *liniments*, and *blisters*, the doctor placed little confidence.

“ The only gargle,” says he, “ that I think I have seen any service from, is brandy with a little water, or frequently without any mixture whatever; but even this could be used in general only seldom: a very frequent use of it, or any wash, or indeed any constant exercise of the parts, as in expuition, seeming to be prejudicial. Washes thrown into the throat by a syringe seemed to have no better effect. As to the fumes of hot liquids drawn in with the breath, I can say little, having only in two cases ordered the vapour of vinegar and water to be used, but with no apparent benefit; though I have prescribed it with great advantage in other cases of quinsy affecting the breathing.

“ I have used several outward applications to the throat, and can say but little in their favour. Volatile liniments and blisters I have ordered very often to the part, without perceiving any

other amendment than happened from the change of the disorder if it was about that period, and suspect the praises I have heard of them have been owing to their being so timed as nearly to hit that period. I have besides mostly found the neck a very inconvenient, and in ladies a totally improper, place for a blister; so that when on account of a greater degree of delirium, attended with much fever and swelling about the fauces, I have been induced to order a blister, I at the last preferred applying one between the shoulders, and in these circumstances have often perceived notable advantage from it. When there has been a great swelling of the parotids externally with considerable pain, a poultice of bread, milk, and oil, applied to them, has given considerable relief; but in other cases I never prescribed nor saw it applied: of cupping I can say nothing, having never used it.

“Of *bleeding*, much need not be said. That many cases would have borne it I have not a doubt, from the whole complexion of the fever attending on them, and therefore I know that it was many times prescribed without doing mischief; but it does not follow from thence that it was requisite or did good. In my own practice, I began early almost totally to neglect it, from an observation that the cases where the pulse was strongest, and heat and fever highest, were not those attended with the most danger, and never afterwards had recourse to it but in violent peripneumonic symptoms, which indeed were very rarely blended with the disease; I am also certain that I have seen many cases become fatal entirely from an abuse of bleeding, so that it was much safer to prohibit it universally, than to be at all free in prescribing it; this remark, however, is only intended to fetter the young and unskilful practitioner. A second bleeding I believe always did mischief; the same remark will hold good as to scarification and application of leeches. My aversion to bleeding in general first took its origin from finding that the application of only two leeches, which I myself had ordered, brought a patient into great danger, who I had no reason otherwise to suppose would have been so. Taught, therefore, by my own mistake, I was afterwards cautious in ordering any thing of the kind (I would say to an extreme), nor had I in one instance found reason to alter my sentiments.

“*Strong purgatives* seemed at least as objectionable as bleeding; and whenever the gentle laxatives already recommended had a considerable effect, I found it necessary immediately to put a stop to it by opiates, as whatever exhausted the patient was carefully to be avoided, and Londoners, though requiring eccoprotics as much as any people whatever, bear strong purgatives, beyond all comparison, the worst. The same may be said of sudorifics, for though a gentle perspiration did good, and usually

attended the turn of the disease, yet great sweats were almost ever pernicious.

“ With respect to *exposure to air*, I found this disorder, when the efflorescence was considerable, to agree perfectly with the measles, it being absolutely requisite to confine the patient to his bed, and to keep the room moderately warm with fire; in this case the drink was allowed to be a little warmed, which I found was most pleasing to the patient’s palate; but where the efflorescence was less, these precautions were unnecessary, nor were they desired by the patient. It is to be understood from hence, that the exposure to cool air did not seem at all to depend on the state of the *Angina*; for where there was little of the scarlet eruption and the patients were low, I have found them evidently relieved by being taken out of bed, and having the air of the room cooled.”

After recommending a strict attention to the *passions and affections of the mind*, the doctor relates two instances in which his treatment was unsuccessful.

“ The first case was of a young lady, above sixteen years of age, who was so obstinate, that from the very first, she would scarcely ever obey any one direction that was given to her; nay, she carried this so far as to boast to her school-fellows that she would not; she had address and cunning enough to secrete most of her medicines, and to persuade her attendants that she had taken them; and, on the fifth day, fell a victim to her own mistaken opinion rather than the insufficiency of the method.”

The other case, the doctor observes, was very different. He relates it in the following terms:

“ In the beginning of October I was requested to visit a family afflicted with this disorder, who lived in a close damp situation. Besides others, who had it in a milder manner, the eldest daughter was in the last stage of it, and died the next morning. The second daughter, a child about two years old, had taken the disease two days before, but did not appear to me in a very alarming way; her throat it is true was ulcerated considerably, and her tonsils much swelled; the efflorescence was at the height, and her pulse was full and strong, though quick. I put her upon the plan already laid down, and have the utmost reason to think every direction I gave was implicitly obeyed. On the fourth day the scarlet colour of the skin began to disappear, and on the fifth, sixth, and seventh, several of the usual symptoms of amendment began to appear; the mouth looked less foul, but the swelling of the tonsils did not subside sufficiently, and the pulse did not come down near its natural standard, which I attribute in part to my not being sufficiently precise in ordering the quantity of wine to be diminished. About the eighth day she seemed to have an appetite, although she could not swallow any thing solid, and even

liquids were got down with the utmost difficulty, often returning both by the mouth and nose. As her throat was greatly filled with phlegm, which seemed to prevent her swallowing, I ordered a gentle emetic to be given, which operated moderately: this was the second deviation I had made from my original plan, and of which I repented much afterwards, as the child received no apparent benefit from it, and soon afterwards began to appear worse. About the tenth day I was alarmed by seeing that fatuity appear which has been already mentioned, and which I had always found so fatal a symptom; at the same time, the throat swelled much externally around the fore-part; the pulse, which had continued quick and weak, became now exceeding full and strong, with an equal degree of celerity; great blotches of a purple colour, approaching to a livid, appeared in various parts of the body, and universal slight convulsions took place.

"As soon as this change began to appear, blisters were tried; but in spite of them, and every method I could devise, the child grew gradually worse; the pulse sunk totally, whilst, at the same time, the convulsions grew stronger; the deglutition never became more free; ulcers returned in the fauces; the teeth became furred; tongue foul; breath offensive, and often laborious; until, at last, on the eighteenth day, its swallowing and breathing both becoming totally obstructed, the unhappy sufferer died in convulsions.

"It is to be remarked, that towards the close of this disorder, large quantities of a matter resembling the coagulable lymph of the blood, was brought up both from the *trachæa* and *œsophagus*. I have known the same to happen in several other bad cases; and in one that was opened after death the *aspera arteria* was found lined with this matter, like what is said of the croup. From this, and the disappearance of the ulcers in the fauces, and other symptoms already mentioned, in many fatal cases, I am led to suppose, that the visible disease in the throat was by much the least part of it, and that in bad cases it spread down to the lungs and stomach, and even perhaps through the alimentary canal.

"From this case I was more firmly persuaded of a maxim which my whole former practice had served to inculcate, that it is exceedingly dangerous in an epidemic to deviate in any measure from a practice which has been found successful. A physician, it is true, should be attentive to every the most minute circumstance; but this attention should be of the speculative, not of the active kind, until some instance of bad success shews that his former mode requires a change; in which case the attention he has bestowed will furnish him with that change without the hazard of repeated trials."

After an apology for the irregularities that are apparent in this account, among which are the following miscellaneous remarks

that would have been more properly inserted in other parts of it, Dr. Sims proceeds to observe, that,

“ The disorder was most prevalent among the middle ranks of life. Few, comparatively speaking, of the poor being liable to it, and, at least, equally few of the great. It likewise hitherto has been pretty much confined to the City, so called, and eastern parts of the metropolis; Westminster, and the new buildings in that quarter, feeling little of its fury; confined narrow courts were more liable to it than large open streets, as were also low damp situations.

“ Vastly more of the female sex than of the male were seized with it, and it seemed particularly fatal to girls, from two to eight years of age. I saw but one child at the breast who had it, and that but lightly.

“ This disorder seemed to agree with the measles, it being infectious before the sickness shewed itself; so that the sending away of those children who had not been seized with it, as soon as any began to complain, did not serve in many instances to prevent their having it. The period that intervened between the time of infection and the appearance of the disease could not be determined. I have seen it indisputably take place the fourth day, but, in other instances, it was several days later. The infection seemed to remain in a house after all the family were recovered for some, but not many, weeks.

“ The disease was totally at a stand during some days' sharp frost that happened, but recovered new vigour soon after that was over. I never saw any danger attend it, except where there were ulcers of the throat. A purging was always dangerous, and a swelling about the larynx after the turn, was particularly so. I saw but four cases of *anasarca* succeed it, and these were all in poor persons, and unattended with danger.

“ The best *preventive of the disease* I found to be rhubarb, taken in the quantity of a few grains every morning, so as to procure one laxative motion in the day. I did not see one who used this confined afterwards to bed, though several persons obviously began it after they were infected, but before the time of their sickening. Peruvian bark I found useful in the latter stages of the disease, but cannot say I had the smallest reason for supposing it so in the beginning, although I have often prescribed it, and seen it tried by the recommendation of others.

“ I have avoided laying down general rules in what I have written; perhaps all epidemics should stand, in some measure, on their own ground, at least until we are convinced that we are acquainted with the whole circle, and I am sure this differed in many respects from any of which we have a distinct account.

“ On first turning my thoughts to write on this subject, I believed it would be useful to make myself master of whatever

had been written historically upon a disorder which is generally supposed not to have existed above two hundred years, as, I think, a proper deference to the public should make every man endeavour to be well instructed himself before he attempts to instruct others: a man without reading, who presumes to write, is like the blind leading the blind. In this research I soon found it necessary to enlarge my view to all the epidemic disorders which have prevailed during that period, that among so many imperfect descriptions I might collect whatever could possibly have any relation to the subject before me. Having thus finished a sketch of these for my own information, together with an account of the weather for that period, several important conclusions seemed deducible from it; but as these are different from many commonly received opinions, and as I think the number and accuracy of the authorities I could examine, and indeed the length of the period that can at present possibly be examined in this view, not sufficient to establish systematic deductions, I shall only throw out what has occurred to me as surmises; which indeed have arisen entirely from what I read, as formerly I was of a different opinion, and so also are most of the writers I have perused; but in reading an author critically, and attending to those facts which often force their way into his work, in spite, I may say, of his theory, very different conclusions from those he draws may be deducible.

“ There are some grand classes of epidemics which prevail every year, and which are produced by the various changes of the seasons. Thus, spring is accompanied by inflammatory diseases; summer by complaints in the stomach and bowels; autumn by catarrhs; and winter by intermittents: these being obviously produced by the state of weather attendant upon them, other epidemics are supposed analogous to them, and obedient to the same rules, which on examination not being the case, all further scrutiny is laid aside, perhaps too hastily. There is another reason why little has been attempted hitherto in this investigation, which is, that we only of late possess tolerably accurate registers of the weather for any one place, and have as yet scarcely any of the diseases that can be depended upon. There is likewise a very great disagreement between the opinions of authors and the vulgar as to the hurtfulness of different kinds of weather, the former always asserting that dry seasons are most noxious, whilst the latter as constantly blame the wet. Now, although in many points little weight is to be given to the sentiments of the latter, yet in matters within their reach the case is otherwise, and in the present difference neither are totally right nor wrong; the truth seems to me as follows:

“ The most natural and healthful seasons in this country are a moderately frosty winter, showery spring, dry summer, and

rainy autumn ; and whilst such prevail, the wet part of them is infested by vastly the greatest proportion of complaints, but those not of the most mortal kind. A long succession of wet seasons is accompanied by a prodigious number of diseases ; but these being mild and tedious, the number of deaths are not in proportion to the co-existent ailments : on the other hand, a dry season in the beginning is attended with extremely few complaints, the body and mind both seeming invigorated by it ; if, however, this kind of weather last very long, towards the close of it a number of dangerous complaints spring up, which as they are very short in their duration, the mortality is much greater than one would readily suppose from the few persons that are ill at any one time ; and as soon as a wet season succeeds a long dry one, a prodigious sickness and mortality come on universally. So long as this wet weather continues, the sickness scarcely abates, but the mortality diminishes rapidly ; so that in the last number of rainy years, the number of deaths is at the minimum.

“ The change of a long dry season, whether hot or cold, to a rainy one, appears from all I can collect on the subject, to bring about the temperature of air favourable to the production of great epidemics ; some however seem more speedily to succeed the predisposing state of the air, others less so ; or it may be that the state of air favourable to them exists at the very beginning of the change, whilst the state favourable to others progressively succeeds : of this last, however, I am very uncertain, as it will be obvious on examining the order in which I shall immediately arrange them, that the first are of so overbearing a nature that they will force every other disease to hide its diminished head in their presence. It is also to be remarked, that two infectious diseases are almost never prevalent together ; therefore, although the same distemperature of air seems favourable to most epidemic disorders, yet some must appear sooner, others later.

“ The order in which these disorders have a tendency to succeed each other, seems to be plague, petechial fever, putrid sore throat, with or without *scarlatina*, dysentery, small-pox, measles, simple *scarlatina*, whooping-cough, and catarrh : I do not mean by this that they always succeed each other as above ; for often the individual infection is wanting, when another takes its place, until perhaps that infection is imported from a place which has been so unfortunate as to have a coincidence of the two causes ; without which it appears that no epidemic can take place, that is a favourable disposition of the air and that particular infection. Whenever it happen that one infectious disorder takes the place, that should have been more properly occupied by another, it becomes much more virulent than it is naturally, whilst the former, if it afterwards succeeds, becomes milder in proportion : this perhaps is the reason why the same disorders, nay, the

same appearances in a disorder, are attended with much more fatality in one year than another.

“ I shall proceed to give as concise an abridgment as possible of the materials from whence I drew these reflections, hoping that the deficiencies of the sketch will be excused on account of the great difficulty of completing it. We have no compilation on this subject which can be at all depended on; Dr. Short’s, although the most copious, abounding with the most unparalleled absurdities and mistakes; the materials therefore for this account were to be culled from a vast variety of authors; and my own collection, though consisting of above four thousand volumes on medicine, is totally inadequate to so vast an undertaking.

“ *First epidemic constitution.* 1590, 1591, 1592, all exceedingly dry years, as was part of 1593; afterwards very rainy weather until the end of 1597. In 1593 the plague killed eleven thousand five hundred and three in London; the same year it was prevalent in Alcmár. A catarrh prevailed in 1597. The rainy weather began in Florence in 1592, during which a pestilential fever raged there, attended with a whitish tongue, and an inflammation, with ulcers about the throat and mouth.

“ *Second constitution.* 1598, an excessive heat and drought, which continued next year; 1600, a severe winter; 1601, a drought of five months continuance; 1602, a cold spring and summer, cold dry harvest and winter; the rest of this constitution very rainy, until the end of 1608, except seven weeks’ frost in 1607. In 1603 the plague was imported from Ostend, where, and in the Low-countries, it raged much, and killed thirty-six thousand two hundred and sixty-nine in London.

“ *Third constitution.* 1609, three months’ most rigorous frost, wherein the Thames became like a solid highway; 1610, an excessive hot dry summer, as were those of 1611 and 1612; 1616, 1617, and 1619. The winters of 1614 and 1615 great frost and snow; the rest of this constitution wet until the end of 1624. In 1609 the plague broke out in Alcmár, as also in Denmark. In 1610 the Hungarian fever commenced in many places, and made great havock for several years, so as often to be denominated a plague. About the same time the malignant sore throat is supposed to have commenced in Spain, where it killed incredible numbers. In 1611 the plague is said to have destroyed two hundred thousand at Constantinople. In 1614 the most fatal small-pox spread all over Europe. In 1618 the sore throat broke out at Naples, where it continued its ravages for twenty years; it was preceded by a similar disorder among cattle. In 1618 the plague in Bergen. In 1619 it broke out in Denmark and in Grand Cairo.

“ *Fourth constitution.* 1625, a hard frosty winter, summer

wet and hot; 1626 and 1627 excessively hot summers; 1630 and 1631 a great drought; the other years wet until 1634. In 1625 the plague killed thirty-five thousand four hundred and seventeen in London; it raged in Denmark both in 1625 and 1629; as also in 1625 in Leyden. In 1632 inflammations of the jaws prevailed, with an erysipelas in one or more places of the body.

"Fifth constitution. 1634, excessively frosty winter; 1635, 1636, 1637, and 1638, very hot and dry summers; then very rainy years until 1643. In 1635 the plague in Leyden, and the camp fever spread all over Germany. In 1636 the plague was in London, whereof died thirteen thousand four hundred and eighty; 1637 the plague in Denmark.

"Sixth constitution. 1643 and 1645, extremely hot summers, then inconstant rainy seasons until 1650. In 1643 a fatal malignant fever was spread by the armies all over England; 1644, a malignant epidemic fever in Denmark; a similar fever in England, in which there was a roughness and sliminess of the throat and jaws, with pain, but scarcely any swelling or inflammation, it seemed only a mere defluxion, by which the sick seemed choaked, and for which astringent gargles were useful. In 1650 a general catarrh.

Seventh constitution. 1651 and 1659, all very hot summers, and mostly very dry years; thence to 1665 very wet. The winters of 1651 and 1658 remarkably cold. In 1651, in the country about Rome, a contagious epidemic quinsy prevailed, and made terrible slaughter among children. A small ulcer arose in the mouth, for which juice of wood-forrel, syrup of pomegranates with the bark, and chiefly spirit of vitriol, were useful. All that took these medicines recovered, but those who were not tractable, and refused medicines, died; it did not seize adults, nor the aged. In 1654 the plague was in Denmark; and in 1655, and the two following years, it prevailed exceedingly in the south of Europe; the agues likewise of these hot years were malignant, and spotted fevers were very common. In 1664, after a mild rainy winter, a malignant purple fever raged in Prussia, and killed great numbers under twelve years of age, those only escaping who had no inflammation or œdematous tumor in the throat. Such as recovered, after sweating, had scales peeling off their skin; then adults had a swelling over their body and of their belly, which continued several weeks like leucophlegmatia, and then went off by sweat and urine. This epidemic seems a considerable deviation from their general progress laid down in the scheme of them already mentioned, and is therefore particularly noticed here.

"Eighth constitution. 1665, an excessively severe frost, which continued to the end of March, summer temperate; 1666, a very hot dry year, followed by two as wet and cold. In 1665, im-

diately after the frost, began the plague in London, which killed, according to the least computation, sixty-eight thousand five hundred and ninety-six; since that time the plague has vanished from this city, and all other epidemics seem to have become less malignant, owing to many causes; among which may, perhaps, be a greater use of fresh vegetable food, a less use of fish, an universal use of tea, superior cleanliness in our persons, a greater attention to our poor in times of scarcity, which are now scarcely felt in any extreme degree, and, lastly, the tremendous fire in 1666, since which the streets have been very much widened, and the houses so enlarged, that the same number of inhabitants now occupy above double the space. In 1667 an epidemic fever with a thrush prevailed in Holland, in which acids were useful, but neither bleeding nor purging.

“*Ninth constitution.* 1669, the summer intolerably hot, after which the winter was as severely cold and frosty; 1670, severe frosty winter; the rest of this constitution bad and wet. In 1669 a most fatal fever prevailed, with slimy tongue, sore mouth, &c. in which bleeding was hurtful, but acids and laxatives most beneficial. Sydenham does not mention this fever, nor its return in 1678, although, next the plague, they were the greatest epidemics in his time; which, together with his little knowledge of putrid fevers, can only be attributed to his practice laying about the court; whilst Morton, who practised in the city, gives abundant proofs that putrid complaints were as prevalent then as at this time. The same year, in Norway, malignant measles are said to have prevailed with thrush, which, if mismanaged or neglected, ended in a fatal mortification. In 1675 a coryza or cough was prevalent.

“*Tenth constitution.* 1678, summer and harvest drouthy, hot, and clear; 1679, winter long, severe frost, and intensely cold; 1680 and 1681, summer extremely dry and hot; the next two years rainy. In 1678 the same fever and sore throat prevailed as in 1669. In 1679, after a most deluging October, a catarrh was universal. In 1682, sphacelated tongues and *angina maligna* prevailed among cattle; in the same year in Dublin a fatal petechial fever.

“*Eleventh constitution.* 1684, the severest frost remembered at that time, succeeded by a very dry and hot summer, to which 1686 bore a near resemblance; the other years were rainy to 1691. In 1684 spotted fevers, particularly of the ‘miliary kind, were common. This and the following year of 1685 are remarkable for the greatest number of burials; from 1665 to 1714, although 1684 does not contain St. James’s, Westminster, and neither 1684 nor 1685 contain St. Ann’s, Westminster, nor St. John’s, Wapping, parishes which are inserted in every future bill of mortality, and which then buried above sixteen hundred annually

at a medium. In 1688 an epidemic catarrh prevailed all over Europe.

"Twelfth constitution. 1691, a frosty winter, and excessively hot and dry summer. The same in 1694, the other years rainy and variable. In 1691 a fatal spotted fever prevailed; in 1693 an universal catarrh; and in 1695 the hooping cough.

"Thirteenth Constitution. 1698, exceedingly hard frost in the winter; the rest of this constitution rather rainy. In October, 1698, began a fatal contagious spotted fever, which spread all over England. Coughs attended most diseases in 1703.

"Fourteenth constitution. 1704, so excessively dry a year that all grass was burnt up; this continued until August 15, 1705; the rest of this constitution cold and wet. In 1704 malignant spotted fevers were common. In 1708 coughs and coryzas prevailed every-where, so that few escaped.

"Fifteenth constitution. 1709, an exceedingly great frost all over Europe, and even in Portugal; 1712, a very frosty winter; the rest of this constitution variable. In 1709 the plague broke out in Dantzick immediately after the thaw, and killed twenty-four thousand five hundred and fifty-three. In 1710 the plague in Copenhagen killed twenty-five thousand. In 1712 sore throats universal in July and August, with dizziness and pains of the limbs, in London.

"Sixteenth constitution. 1714 and the six succeeding years were all dry with hot summers. The winter of 1716 so severe a frost that the Thames was covered with booths; that of 1718 likewise very frosty; the rest to 1731 cold, wet, and variable, except 1723, which was cold and dry; and 1729, which was a cold dry winter, followed by a hot dry summer. In 1720 the plague killed sixty thousand in Marseilles. In 1729 an universal epidemic catarrh in November.

"Seventeenth constitution. 1731 was a very dry year, which continued until harvest 1732; summer of 1733 rather dry and pleasant, as was most of 1738; the remainder of this constitution extremely wet. In the beginning of 1733 was an epidemic catarrh; 1737, 1738, and 1739, were all much infested with catarrhal fevers, especially among children.

"Eighteenth constitution. 1740 was the severest frosty winter and spring that had happened for three hundred years; 1741, extremely dry hot summer; 1742, a variable, but dry year; the rest of this constitution wet or variable. In 1740 a malignant petechial fever made great havock in Bristol, and in Galway in Ireland. In 1741 it reached London, where this and the last year were the most mortal ever known, except when the plague reigned, the burials amounting to sixty-two thousand nine hundred and eighty. In 1742 the putrid sore throat broke out. In March, 1744, an epidemic catarrh was universal, and was more fatal than usual.

"*Nineteenth constitution.* 1747 was an excessively hot dry summer; 1750, a dry year throughout, and intensely hot summer; the rest of this constitution moderate, variable, or wet. In 1747, and the succeeding years, the fore throat seemed to acquire new vigour, alarming the inhabitants of these kingdoms very much. In November, 1758, was an universal epidemic catarrh.

"*Twentieth constitution.* 1760 was drouthy from June 26 to September 16; the end of that and the following year severely wet, as was the end of 1763 and beginning of 1764; the rest of this constitution moderate. In April and May, 1762, a most epidemic catarrh.

"*Twenty-first constitution.* 1765, a very dry year, and rather hot summer, as was the next year, though not quite so much so; the remainder of this constitution moderate years, rather inclining to wet. During this constitution I do not find any very remarkable epidemic until the universal catarrh in November, 1775, unless we reckon the small-pox so of the year 1772, which, succeeding a hard winter, killed more than they had ever done in one year in London.

"*Twenty-second constitution.* The year 1776 was dry, and 1778 still more so. The winter of 1780 was the most frosty since 1740; yet these deviations from what might be accounted moderate weather were so small as scarcely to deserve notice. In May, 1782, was a very general epidemic catarrh.

"Immediately after the last-mentioned year began the constitution which has produced the present epidemic."

"Thus have I given a cursory view of the weather, and some of the epidemics of the last two hundred years, and have purposely dwelt most on the extremes; that is, those of the greatest and of the least malignity; that by omitting the middle ones the difference might be most striking. Any person that chooses may divide the years differently, and indeed at first I had done so myself; yet it will still be found, I think, that the same deductions as those I first laid down will hold good; should this trifling sketch besides excite any one who has more leisure and opportunities to bestow adequate pains upon the subject, I shall gain my end; and if he simply follows whithersoever truth leads, I doubt not that much public utility will be the consequence. By investigating minutely every circumstance that tends to produce or impede these infectious complaints, may we not hope in time to be able to obviate much of their malignity, and perhaps at last entirely to stop their course. The plague is now scarcely known in the west of Europe, and the numbers that fall sacrifices to the small-pox are the victims of obstinacy and bigotry. Having conquered these gigantic epidemics, shall physicians dread being able to prevent pigmy scarlatinas or catarrhs? Experiment has carried

natural knowledge far beyond the apparent powers of man, and just observation, unsophisticated by theory, will carry medicine to a degree of perfection of which our present feeble conjectural art seems utterly incapable."

Dr. Lettsom, in a subsequent volume of the same work, inserts a paper under the title of "Curfory Remarks on the Appearance of the *Angina Scarlatina*," in the spring of the year 1793.

"The winter of 1792-3," says the doctor, "was more temperate than any that occurred to my recollection. There were not two successive days of a sharp frost, nor was there one day that admitted of skating even on shallow water. The ground about London never was covered one day with snow or hail, nor scarcely one day's interruption given to brick and mortar in architecture. Much rain, however, fell in this period, as well as in the spring, which was a cold one.

"In this latter season, there prevailed erysipelatous fevers, aphthæ, both with and without fever, and some cases of typhus fever.

"With the commencement of the year 1793, the angina first appeared, in the higher villages about London; gradually descended into lower situations, and visited the metropolis pretty generally near the end of February. It has been remarked for many years, that this disease appears in the vicinity of London before it visits the metropolis.

"The neighbouring villages are full of boarding-schools, to accommodate the children whose parents reside in London; and as soon as any of the children are infected they are sent home, and thus propagate the disease in the city; for two years successively I have first heard of the appearance of the infection at Hampstead or Highgate, situations remarkable for their high elevation; this, however, is not uniformly the case; but this subject is not unworthy of further attention, as it may lead to certain means of prevention. That female children should be more susceptible of catching the infection, may be inferred from their greater delicacy. In the period I am describing, I saw much fewer patients in London, than in the neighbouring villages, and in proportion to the number infected, the fatality was much greater in the latter. In some villages, private families suffered greatly; in a few of these I heard that half the number of the children died. During the time I have described, that is from January to the end of May, I attended three fatal cases, each of which I shall introduce here, as perhaps of more medical advantage than the detail of successful ones."

Case 1.—"Early in February, 1793, being engaged in attendance on a gentleman near Wimbleton Common, I was desired to visit one of the domestics, then labouring under the angina scarlatina. Some of the children in the family had had the angina

with ulceration of the tonsils, but without any efflorescence of the skin.

"The present subject was about twenty-two years of age. She had always been healthy, and had laboured under no indisposition previous to the present attack, which began with almost incessant vomiting, and some tendency to diarrhoea: the fluid ejected seemed to be merely what she drank; and when the stomach was empty, a straining to vomit continued. She was excessively restless, continually tossing from one side of the bed to the other, and sometimes delirious; the pulse was so rapid as to admit counting with difficulty, but not intermitting. The skin was covered with the scarlatina, and the whites of the eyes were of a ferrety red. On examining the throat, the whole internal fauces, and as far as the eye could pervade, the same scarlet coloured efflorescence extended down her throat, and on the tonsils, which were much swelled; there were also slight ulcerous specks. It was remarked, that from the first attack, the suspiria and moaning were expressive of great anxiety and debility. The symptoms described occurred on the first day. On the second little variation was remarked; the same restlessness, and straining to vomit, with increased suspiria and debility, appeared; the diarrhoea had not totally subsided; delirium was augmented, and the jactation in bed incessant, for she had little or no sleep without inquietude.

"After this time I did not see her, but I was informed that she died on the 4th day; the same symptoms nearly continuing till her death. She took, on my first visit, a solution of conserve of roses in mint-water, well acidulated with the vitriolic acid; to which was occasionally added tincture of opium, and lastly bark; blisters had been applied behind the ears, and fomentations of poppy heads to the feet.

Cases 2 and 3.—"Near the conclusion of February, 1793, a young lady in the same neighbourhood, about twenty years of age, was attacked with a sore throat: about the fifth day I was consulted. There never had been any eruption on the skin, and the tonsils were very much inflamed; the disease I understood put on the appearance of inflammation at its commencement: at the period when I attended, the nature of the infection became more decisive, and the tonsils were considerably ulcerated, the parts ash-coloured, or livid; the debility excessive, the pulse quick and weak, and the delirium almost constant; the alvine and urinary evacuations were involuntary; sometimes the patient lay comatose, at others more restless and moaning. The whole aspect of the case gave me very little hope of a recovery. As deglutition was difficult, what was taken was cordial; and by perseverance, by little and little, about one quart of red port wine was consumed in twenty-four hours. The chief medicine was acidulated bark.

By incessant care in administering nourishment and medicine, by cleanliness and attention to the admission of air, after a struggle of about ten days this young lady recovered.

" Her sister, about fifteen, of a healthy constitution, appeared indisposed the day before my first visit to the elder sister, whose disease, I have remarked, was not, at its outset, suspected to be infectious, and never was accompanied with the scarlatina; communication was hence not interdicted. I found the fauces and tonsils efflorescent, with an erysipelatous tinge; but although the latter were swelled, I perceived no ulceration: the breast and arms had also a slight efflorescence, which determined my opinion of the disease being the angina scarlatina. The restlessness was not very considerable, nor was the pulse or degree of fever then alarming; but there were frequent suspiria and efforts to vomit; nothing, however, was ejected, except the fluids swallowed; some diarrhœa attended: she appeared sometimes comatose.

" On the next morning the late Dr. Austin met me in consultation, on account of the elder sister, just mentioned. We prescribed for the younger the infusion of roses, with two drops of tincture of opium, every four hours; blisters behind the ears, and a fomentation of vinegar and water to the legs.

" In the evening, we found the efflorescence on the skin very general and florid; the internal fauces and tonsils of the same colour, with trifling white specks on the latter; the pulse was low and somewhat fluttering; her diarrhœa continued; the medicines and diet had been vomited. I had previously given her vegetable acid and alkali in a state of effervescence, with no better success.

" A blister was applied to the sternum; one draught was given with nine drops of tincture of opium, and a clyster with twenty. The apothecary, who slept in the house, visited her at two o'clock in the morning, found her calmer and disposed to sleep, but sick on taking any thing, though the medicine itself had not been vomited; at eight in the morning he did not apprehend greater danger, but at ten, however, she expired with deep and feeble suspiria.

Case 4.—" This child, about six years old, resided at the village of Peckham: in April, on the fourth day of the attack, when I saw it, the ulcerations on the tonsils were considerable, but there was not the least efflorescence on the skin. The pulse was seldom under 130 in a minute, and this was the principal unpleasant symptom the child laboured under; in other respects, the deviation from common health was not considerable. She took nourishment, slept pretty well, and was always sensible.

" On the eighth day, she was so much relieved, that I did not deem it requisite to renew my visits, no disease being apparent but debility; the pulse, however, was still rapid, but judging this to depend on weakness, I presumed upon its return to a natural state from returning health. Two days afterwards I

was hastily demanded to revisit my patient, but before my arrival it expired. I was informed that a diarrhoea suddenly came on twelve hours before dissolution.

“ Her brother, about a year older, caught the same disease, and had small ulcerations of the tonsils, and the scarlatina over the whole surface of the body. This patient, however soon overcame every symptom.

Case 5. “M.G. a child three years old, was attacked in April with the measles: at the school, from whence she was removed, this disease, as well as the angina, had infected the majority of the children; but both diseases never appeared upon any child at the same time. The family had eight children. Just as the measles were subsiding, the angina shewed itself; at this moment it was that I was called in to attend. From a similarity in the eruption, which every practitioner is aware of, from the remaining cough, and from the mere redness of the tonsils, without ulceration, I was in doubt to which disease to ascribe the symptoms; on the next day the cough was less troublesome, whilst the symptoms of angina had augmented, and I was then clear that this was the present malady. The apothecary had applied a blister to the neck, and given acidulated bark. I was long doubtful about the event of this child, in consequence of a sphacelus following the application of the blister to the neck, but after severe conflicts for the space of two months, the patient recovered; with, however, a scar, or cicatrix, on the forepart of the neck. The parents of this child, all the other children, as well as the servants, both male and female, had the fore throat, and those who had not had the measles caught this disease, but no person had both these diseases at the same time, so far at least as could be ascertained by symptoms. With some of the children the measles appeared first, in others the fore throat preceded. In consequence of this succession, the diseases continued in the family for the space of two months, which probably might singly have terminated in as many weeks. Some in the family had the ulcerated fore throat without any eruption, some had the scarlatina with a very moderate degree of fore throat. This was observed not only among the children, but also among the servants.

“ During this long period of sickness in the family, they had no other communication than medical attendance. The children were either within doors, or in the garden, and the house was in the country detached from every other.

“ In relating the cursory histories of the preceding cases, I had no view of supporting any speculative opinions respecting the nature or cure of the disease. Some have described the angina scarlatina and the angina maligna as distinct diseases; as far, however, as my experience extended, they appeared here to originate from one source of infection, differently modified, by some peculiarity of constitution, state of the weather, mode of living, or degree of virulence in the infection. But, whether this suggest-

tion be admitted or not, the symptoms seemed to require some variation in treatment..

“ When this disease is accompanied with the scarlet eruption, there are usually more heat and fever, restlessness, head-ach, and thirst ; at its onset, diaphoretics and antimonials, if the stomach will bear them, might be adopted ; but I think Dover’s powder in small doses preferable, to which may be added saline neutral draughts with aromatic confection. The angina under this appearance is much relieved by inducing a gentle perspiration, which is also promoted by warm fomentations to the legs and feet ; but as debility is liable soon to ensue, this must be obviated by wine negus or whey, and by freely drinking of an acidulated infusion of red roses. If with this debility there is a diminution of febrile symptoms, the Peruvian bark should be relied upon, with or without the union of mineral acids, as is most suitable to the state of the bowels. When the disease appears with little or no scarlatina, there is usually less fever, and after a mild emetic and alvine evacuation, the bark may be immediately exhibited.

“ Air I conceive to be salutary in every appearance of the angina, as well as in every species of typhus fever. Emetics require much caution. Almost all the fatal cases of angina, that have come under my observation, have had a spontaneous vomiting, which has continued in some degree to the latest period ; and in some cases where emetics have been exhibited, the operation has been restrained with great difficulty. The matter vomited has not in general indicated a foul stomach, but the vomiting when spontaneous seems to arise from irritation. I have here in view the angina attended with scarlatina, where the tongue indeed is rather of a bright red, clean look, than furred ; and where, upon the whole, I would prefer remedies that gently open the belly, and promote diaphoresis.

“ In the angina, without the scarlatina, the tongue is often loaded with a white foulness, and vomits have proved salutary, and promoted a favourable diaphoresis.

“ As this is a frequent effect of emetics, and as exciting a perspiration is found beneficial, where the disease is joined with the scarlet eruption, it might be inferred that vomiting would in like manner be indicated under this modification of the disease. I can only reply, that experience does not warrant this conclusion.

“ Blisters have been almost uniformly applied to the neck and fauces, soon after the appearance of the angina ; but I have no reason to think the practice a judicious one ; it is always a painful one, and frequently a pernicious one, by increasing irritation ; independent of this they sometimes sphacelate and leave a foul scar for ever, which, in some instances, has afforded more distress to a family than death itself, by giving a deformity, which to every spectator conveys the idea of scrophula. If a blister were deemed

necessary, it would prove not less beneficial, by application to a part a little distant from the disease itself, as to the nape of the neck.

"Gargles of various kinds have been also long in use, to cleanse the diseased parts, or to act as antiseptics. To wash off now and then the viscid mucus of the fauces and throat is advisable; but, under the idea of merely gargling being of use, patients, when capable of doing it, are almost continually prompted to repetition; which I think has done much more harm than good in this disease, as well as in the thrush. As acidulous drinks are most grateful to patients labouring under the angina, a little wine negus, or infusion of roses, may be employed to rinse the mouth and fauces when requisite.

"Venæsection I never tried. I have heard it has been repeatedly done, but my information is, that it had been generally succeeded by a fatal event."

As next in the order of time, we shall annex some cursory observations made by Dr. Sims, on a species of scarlatina anginosa, which occurred in the autumn of 1798, and with these close the present chapter. He first observes, that a *species of scarlet fever*, different from that which he before has described, appeared in various parts of London and its vicinity, which was attended with great fatality in proportion to a number of persons seized with it.

The doctor says, "How far the state of the weather has had an effect in producing it, cannot perhaps, at present, be positively determined. Suffice it to say, that the winter and spring of 1797 had more frosty days than mostly occur, though none of the frosts were of long continued duration. This dry frosty weather was introduced by one of the coldest nights and mornings perhaps known since that of 1739 (the morn of Christmas-day, 1796), agreeably to what I think I have universally observed, which is, that in the beginning of frosty winters the descent of the mercury in the thermometer is in proportion to the quantity of frost that will ensue in that winter; so that if we observe the lowest point to which it descends, we shall be able to predict the degree of frost upon the whole, and the average degree of cold for some succeeding months. Since that time there have been nearly regular successions of rainy and dry weather, each lasting several months."

We shall pass over some pages of matter of a miscellaneous cast, to possess ourselves of what more immediately belongs to the disease under consideration, and which the doctor gives in the following terms:

"The angina of which I am treating," says Dr. Sims, "was extremely sudden in its attack. The patients were apparently as well perhaps in the morning, as for a considerable length of time, when all at once in the evening, they were seized with great sick-

ness, retching, and vomiting of bilious matter. This was followed quickly by heat of skin, headach, thirst, and quickness of pulse; to which before or in the morning was added that peculiar scarlet efflorescence, from whence the disorder is denominated. The danger of the disorder afterwards was usually in proportion to the violence of these first symptoms. The retchings continued in bad cases, at intervals, during the greatest part of the disease. In these cases also the inflammatory symptoms increased greatly during the first days, particularly the heat of skin and strength of pulse, which latter was as full as often in pleurisy, but not attended with so much hardness. The tongue appeared scarcely changed, only inclining to a little more redness; the eyes had likewise a slight red suffusion. The bowels were not lax of themselves, nor were made so by very gentle doses of medicine, but when purged were apt to be too much so.

“ About the third or beginning of the fourth day a redness and swelling of the face, or oftener of one side of the face, was conspicuous, affecting the nose, and preventing the freedom of respiration through that organ. At the same time also swellings appeared in the throat on each side under the jaw. These last increased very rapidly, so as in about two days to acquire such an extraordinary size as to force the chin upwards, and to make apparently a straight line from it along the throat and sternum. In some extreme cases, the face, instead of being perpendicular, was almost horizontal, being held more out of its natural position than upon trial I find I can force mine by any muscular exertion, even at the expence of considerable pain. This appearance, however, I am convinced, was heightened by the whole hollow of the throat being filled up by the tumors. The degree of this intumescence was very various in different persons, but there was another much more uniform symptom now attendant upon the disorder, inasmuch that I have not heard of a single severe case where it was wanting. This was a great discharge from the nostrils, which came on about the fifth day. This was at first whitish, then yellow, but afterwards it became darker, with a most intolerable fetor. This most offensive discharge accompanied all the rest of the disorder, where it terminated fatally. About the seventh day the pulse, which had hitherto kept up tolerably, sunk entirely; their understanding also totally deserted the patients. They now lay a miserable spectacle of suffering humanity, breathing with labour through their mouth, which remained wide open, and which, together with their teeth and lips, became gradually covered with a black dry fur. The scarlet eruption did not decline at the time I remarked in my former treatise, but remained until the eighth or ninth day, when it gradually gave way to that purple appearance resembling a person chilled with frost, which is often seen in the end of typhus, and which is a sure forerunner of de-

struotion. This, however, at the last changed to a blue or livid colour, especially about the throat; the tumours subsided, but not totally disappearing, whilst life remained. The fatal period was about the tenth day in those cases which went on by the gradations just mentioned, the patient surviving without pulse or senses a longer time than is usual in fevers of almost any kind.

"Although the tenth day has been mentioned as a not uncommon period of fatality, which, I believe few survived who did not recover, yet in some it run through all its stages with much more rapidity, killing so early as even the fourth day. But it seemed more proper to describe the tedious cases, as they shewed the gradations of the disease more distinctly. The rapid cases also seemed to differ from them in nothing but in the quickness with which they went through the various stages.

"It may seem surprising that nothing has been said about the inside of the throat. The fact is, the patients complained little, and but little, of pain there in the beginning, and in a few days even this was no more heard of. Deglutition was throughout scarcely, if at all, impeded. As to ocular examination of it; in the favourable cases I could perceive little arnifs, and in the others I was deterred from so dangerous an experiment by the great attendant feter."

The doctor declines laying down a method of cure for so deplorable a malady, from a thorough conviction that there is little to be done in such cases. Nor has he yet found any candid practitioner who is more sanguine as to the *extreme cases* of it, for as to slight cases, they recovered under every kind of management.

"But," says the doctor, "although I cannot say what cured it, I can, I fear too decidedly, point out what did not.

"Ever since the angina shewed such malignity in the years immediately succeeding the great frost of 1739-40, it has been the too constant practice to have recourse to Peruvian bark and cordials in all cases of sore throat. As to the bark, both in this disorder and in typhus, or any other fever, I think it seldom serviceable where the tongue and lips are dry and dark coloured, and the teeth covered with a black fur. Nay, where there has only been a dryness of these parts, I have sometimes seen the use of the bark speedily produce that black furring, which is ever so bad a sign, and which the common people denominate the black thrush. I hope I shall not be understood here to depreciate the bark, in any other cases, where it has been recommended, than in those before mentioned. Few, I believe, hold that medicine in higher estimation than myself, but in proportion as a remedy may produce excellent effects, when administered with judgment, so may it be pernicious if given improperly. What has been said of this remedy in the above-stated cases, may, perhaps, be extended in them to wine and cordials. But howsoever the case may be in

other disorders, I am convinced that, in that particularly now treated of, these remedies produced no salutary effect. The same may be said of blisters and other stimulants, though I have heard them praised by some because they had been used in cases, which being slight, the patients recovered, and would have done so, had any other method been followed. I had but one opportunity of trying the vitriolic acid, which was on a patient whom I saw first only on the fifth day of the disease, and whose situation gave me, at the very first view, a most unfavourable idea of its exit. This, therefore, terminating fatally, would scarcely deter me from its use; but from an attentive consideration of the symptoms, so very different from the scarlatina formerly described by me, I must own myself not at all prepossessed in favour of this acid in a disease of the present complexion. The antiphlogistic regimen, and bleeding, I have likewise heard were tried with no better success. But as to this I must remark, that the information came from a person on whose talent for observation much reliance could not be placed, which in medical matters I account to be of the highest importance: without doubt, at the close of the distemper, such methods would be highly improper, but that they were so in the beginning, in all circumstances and degrees, seems to me not so clear or probable.

“ Having stated the bad success of these methods of treatment, it may be asked what method ought to be followed. To theorists, indeed, the answer might be impossible, who having dressed up the old doctrine of *strictum et lexum*, under the new fangled names of atony and spasm, excitement and collapse, &c. see nothing in all medicine but the application of two general rules.

“ An experienced and diligent practitioner will however see that there are still left untried many of the most powerful articles of the *materia medica*; I shall only say, that from experience I can venture to recommend nothing, and that whatever means are used must be prompt and powerful.”

Genus XXXIII. URTICARIA.

NETTLE-RASH.

Febris urticata, *Vog.* 40.

Uredo, *Lin.* 8.

Purpura urticata, *Funk.* 75.

Scarlatina urticata, *Sauv.* sp. 2.

Erysipelatis species altera, *Sydenham*, sect. vi. cap. 6.

Febris scarlatina, et *febris urticata*, *Meyser*, *Mal. des armées*, 291 et seq.

1. *Description.*] This disease has its English name from the resemblance of its eruption to that made of the stinging of nettles. These little elevations upon the skin in the nettle-rash often appear instantaneously, especially if the skin be rubbed or scratched, and seldom stay many hours in the same place, and sometimes not many minutes. No part of the body is exempt from them; and where many of them rise together, and continue an hour or two, the parts are often considerably swelled; and which particularly happens in the face, arms, and hands. These eruptions will continue to infest the skin, sometimes in one place and sometimes in another, for one or two hours at a time, two or three times every day, or perhaps for the greatest part of the twenty-four hours.—In some persons they last only a few days, in others many months; nay sometimes the disease has lasted for years with very short intervals.

But though the eruption of the urticaria resembles, as already observed, that produced by the stinging of nettles, it is sometimes accompanied with long weals, as if the part had been struck with a whip. Whatever be the shape of these eminences, they always appear solid, without having any cavity or head containing either water or any other liquor: and this affords an easy mark whereby this disease may be distinguished from the itch. For it often happens, that the insufferable itching with which this eruption is attended, provokes the patient to scratch the parts so violently, that a small part of the cuticle on the top of these little tumors is rubbed off; a little scab succeeds; and, when the swelling is gone down, there is left an appearance hardly to be distinguished from the itch, but by the circumstance just now mentioned. The nettle-rash also further differs from the itch, in not being infectious.

2. *Causes, &c.*] Dr. Heberden is inclined to ascribe this disease to some mechanical cause outwardly applied to the skin. He observes, that most people suffer in a similar manner from the real stinging of nettles. Cowhage, a sort of *phaseolus*, or French bean, the pod of which is covered over with a kind of down or hair, and the effect of which upon the skin is much the same as that of the nettles; and almost any hairs cut equally short, and sprinkled upon the skin, whenever they happen to stick in it, will make the part itch or smart in such a manner as to give great uneasiness; it is also a considerable time before the skin can be cleared of the finer ones, when once they are strewed upon it.

Reaumur, in the fourth memoir of his history of Insects, describes a species of caterpillar, to which belong a sort of hairs almost invisible to the naked eye, which are easily detached, and frequently float in the air round their nest, though it have not been at all disturbed. The touch of these hairs has a similar

effect with the cowhage; that is, they occasion intolerable itchings, with little bumps and redness, arising sometimes to a slight inflammation. These he found would continue four or five days, if the animal or the nest had been much handled; and though they had not been touched at all, yet, by only walking near their nests, the same effects would be brought on, but for a shorter time. These hairs affect the skin in this manner by sticking in it, as he could perceive with a glass of a great magnifying power; for with one of a small power they are not visible. The uneasy sensations caused by these small wounds, not only, as he says, last several days, but move from one part of the body to another; so that they will cease upon one wrist, and immediately begin on the other; from the wrist they will go to the fingers or face, or even to the parts of the body that are covered. He supposes, that the motion of the body, when much of this fine down lies near or upon the skin, may drive it from one part to another, or change what was lying there inoffensively to a situation fit to make it penetrate into the skin. Neither cold water, nor oil, nor spirit of wine, with which the parts affected were bathed, had any effect in removing the itching. He thinks the most efficacious remedy which he tried for this complaint was, to rub the parts strongly with parsley, which instantly lessened the sensations, and after two or three hours, entirely freed the patient from them. It is also well known that many species of caterpillars, by only walking over the hands, will produce something like this effect on the parts which they touch, and undoubtedly from the same cause.

Dr. Heberden asks, Is it impossible that the nettle-rash should arise from the same causes, or from others similar, which we miss by looking too deeply for them in the blood and humours? Such (says he) may have been its origin in some instances, where it has lasted only a few days; but where this affection has continued for some years, in persons who change their linen every day, and who bathe frequently all the time, it can hardly be ascribed to such an external cause. He has observed it frequently to arise from cantharides; but though it has continued many weeks after the removal of the blister, yet it might be suspected that this arose from the fine spiculæ of the cantharides sticking all this time about the skin; it being customary to strew much of the dry powder of the cantharides over the blister-plaster, whence it may readily be carried to other parts of the body. But it is certain that similar effects will sometimes follow the internal use of wild valerian root, or the eating of fish not sufficiently dressed; muscles, shrimps, and even honey, and the kernels of fruit, will also sometimes produce symptoms of a similar kind. But whatever be its cause, Dr. Heberden never saw any reason to suppose that the nettle-rash had in any way vitiated the humours to such a degree as to

require the use of internal remedies ; and if the itching could be certainly and expeditiously allayed, there would be no occasion for any farther cure. He concludes this history of the disorder with a case communicated to him by Dr. Monsey, physician of Chelsea-college, and in which the disease appeared with uncommon violence.

W. A. aged near 30, of a thin spare habit, was seized with a disorder attended with symptoms of a very uncommon kind. Whenever he went into the air, if the sun shined bright, he was seized with a tickling of his flesh on those parts exposed to the sun : this tickling, by his continuing in the air, increased to a violent itching, attended with great heat and pain : the skin would then be almost as red as vermillion, and thicken like leather ; and this remained till he went out of the open air, and then abated in about fifteen or twenty minutes. This happened only when the sun was above the horizon ; at other times he was well as he called *quite well*.—But it was not owing to the heat of the sun ; for the sun in winter affected him full as much, if not more, and the heat of the fire had no such effect. Thus he was confined to the house for ten years. He tried several hospitals, and had advice from many physicians, without the least abatement of his complaints. At last it was agreed by a consultation of physicians, that he should try dipping in salt-water ; which he did at Yarmouth for thirteen weeks, without any visible amendment. One hot day, having pulled off his clothes and gone into the sea in the middle of the day, the heat diffused itself so violently all over his body, that, by the time he had put on his clothes, his eye-sight began to fail, and he was compelled to lie down upon the ground to save himself from falling. The moment he lay down, the faintness went off : upon this he got up again ; but had no sooner arisen, than he found himself in the former condition : he therefore laid down again, and immediately recovered. He continued alternately getting up and lying down, till the disorder began to be exhausted, which was in about half an hour ; and he was frequently obliged to have recourse to the same expedient.

Having at last accidentally met with Dr. Monsey, this physician questioned him concerning the cause of the disorder ; but nothing could be guessed at, excepting that the patient owned he had one winter lived entirely upon bullocks' liver and porter, from inability to purchase better victuals. A comrade lived with him at that time, on the same provisions ; and he also was affected in a similar manner, though in a less degree, and had recovered. This patient was then first put upon a course of Dover's sweating powder without any effect, and afterwards tried a course of nitrous ones with the same bad success. At last Dr. Monsey determined to try the effect of mercury, which happily proved effectual in removing this obstinate and uncommon distemper. The patient

began with taking five grains of calomel for three nights running, and a cathartic next morning. In this course he went on for near a fortnight, at the end of which he found himself very sensibly relieved. This encouraged him to go on rather too boldly, by which means a slight salivation ensued; however, that went off soon, and in about six weeks he was quite well.—Some time after, he was threatened with a return of his disorder; but this was effectually relieved by a dose of calomel, which he had afterwards occasion to repeat for the same reason, and with the same success; but at last the disorder seemed to be radically cured, by his having no further symptoms of a relapse.

Genus XXXIV. PEMPHIGUS.

Pemphigus, *Sauv.* gen. 93. *Sag.* 291.

Morta, *Lin.* 1.

Febris bullosa, *Vog.* 41.

Pemphigus major, *Sauv.* sp. 1.

Exanthemata serosa, *C. Pison.* Obs. 150.

Febris pemphygodes, *Ephem. Germ.* D. I. A. viii. Obs. 56.

Pemphigus castrensis, *Sauv.* sp. 2.

Febres syneches, cum vesiculis per pectus et collum sparsis
Morton. App. ad. Exerc. II.

Pemphigus Helveticus, *Sauv.* sp. 3. *Langhans*, in Act. Helvet.
vol. ii. p. 260. et in *Beschreibung* des Siementhals, Zurich,
1753.

This is a very rare disease, inasmuch that Dr. Cullen never saw it but once. He declines taking the descriptions of foreign physicians; we shall therefore content ourselves with giving an instance of this very uncommon distemper, as it was observed in the infirmary at Aberdeen, and was treated by the late Dr. David Stuart, then physician to that Hospital, who soon after published an account of it in the Edinburgh Medical Commentaries. A private soldier of the 73d regiment, aged eighteen years, formerly a pedlar, and naturally of a healthy constitution, was received into the hospital at Aberdeen on the 25th of April. About twenty days before that, he had been seized with the measles when in the country; and, in marching to town on the second day of their eruption, he was exposed to cold; upon which they suddenly disappeared.

Having arrived at Aberdeen, he was quartered in a damp, ill-aired, under-ground apartment. He then complained of sickness at stomach, great oppression about the præcordia, head-ach, lassitude, and weariness, on the least exertion; with stiffness and rigidity of his knees and other joints. The surgeon of the regi-

ment visited him : he was purged, but with little benefit. About ten days before, he observed on the inside of his thighs a number of very small, distinct, red spots, a little elevated above the surface of the skin, and much resembling the first appearance of small-pox. This eruption gradually spread itself over his whole body, and the pustules continued every day to increase in size.

Upon being received into the hospital, he complained of head-ach, sickness at stomach, oppression about the præcordia, thirst, sore throat, with difficulty of swallowing ; his tongue was foul, his skin felt hot and feverish ; pulse from 110 to 120, rather depressed ; belly costive ; eyes dull and languid, but without delirium. The whole surface of the skin was interspersed with vesicles, or phlyctænæ, of the size of an ordinary walnut ; many of them were larger, especially on the arms and breast. In the interstices between the vesicles, the appearance of the skin was natural, nor was there any redness round their base ; the distance from one to another was from half an inch to a hand breadth or more. In some places two or three were joined together, like the pustules in the confluent small-pox. A few vesicles had burst of themselves, and formed a whitish scab or crust. These were mostly on the neck and face ; others shewed a tolerably laudable pus. However, by far the greatest number were perfectly entire, turgid, and of a blueish colour. Upon opening them, it was evident that the cuticle, elevated above the cutis and distended with a thin, yellowish, semi-pellucid serum, formed this appearance. Nor was the surface of the cutis ulcerated or livid ; but of a red florid colour, as when the cuticle is separated by a blister or superficial burning. No other person laboured under a similar disease, either in the part of the country from which he came, or where he resided in Aberdeen.

This case was treated in the following manner. The largest of the vesicles were snipped, and dressed with *unguent. e lap. calaminar.* In the evening he was vomited with a solution of tartar emetic, given in small quantities and at intervals. This also procured two loose stools. And he was ordered for drink, water-gruel acidulated with lemon-juice.

“ April 16. He still complained of sickness, some oppression about his breast, and sore throat ; he had slept little during the night ; his tongue was foul and blackish ; his skin, however, was not so hot as the preceding day ; his urine was high-coloured, but had the appearance of suppuration ; his pulse 90, and soft ; most of the sores on the trunk of the body looked clean. Others, particularly where the vesicles were confluent, seemed beginning to ulcerate, and to have a blueish sub-livid appearance. They were dressed afresh with cerate, and he was ordered the following medicines :

(No 183.) R Decoct. Cinchonæ, ℥vi.

Vini rubr. Lusitan. ℥iij. M.

Hujus mixturæ capiat ℥℥. tertia quaque hora.

“ His acidulated drink was continued; and on account of the very offensive smell on approaching near him, some vinegar was placed in a basin before the bed, and sprinkled on the floor; and the room was kept properly aired.

“ April 17. His sores looked tolerably clean, unless on his arms and thighs; where they were livid, and a little ulcerated, and discharged a bloody ichor.

“ His headach, sickness, &c. were mostly gone; his tongue was rather cleaner; pulse 68, and soft. As the decoction of the bark sat easily on his stomach, the following prescription was ordered.

(No. 184.) R Pulv. Cinchonæ, ʒß.

Vini rubri. Lufitan.

Aquæ fontan. aa ʒss.

M. fiat Haust. tertia quaque hora repetend.

The acidulated drink was continued, and fresh dressings applied to the sores.

“ April 18. The little ulcers in his arms and thighs still discharged a bloody ichor, and looked ill; his other complaints were better; pulse 82. The bark had not nauseated him, and it was continued as well as his former drink.

“ April 19. His sores looked much cleaner and better; the fever was gone, his pulse natural, and he had no complaint but weakness, and a troublesome itching of the skin: the Peruvian bark, &c. were continued.

“ April 20. Some of the ulcers still poured forth a bloody ichor; most of them, however, looked well and had begun to heal—fever gone—medicines continued.

“ From the 21st of April, he went on gaining strength, and his sores appeared to heal fast; he was desired to take only four doses every day; and by the 27th his sores, &c. were totally dried up—he had no complaint, and was dismissed cured.”

Since the publication of this case of pemphigus by Dr. Stuart, observations on this disease have been published by Dr. Stephen Dickson, of Dublin, in the Transactions of the Royal Irish Academy. In these observations, an account is given of six different cases which Dr. Dickson had an opportunity of seeing. Judging from these, Dr. Dickson thinks that Dr. Cullen's definition of the disease requires correction; and that it ought to be defined, “ a fever accompanied with the successive eruption, from different parts of the body, internal as well as external, of vesicles about the size of an almond, which become turgid with a faintly yellowish serum, and in three or four days subside.”

From the cases which have fallen under Dr. Dickson's observation he concludes that the disease varies considerably as to its mildness or malignity. In three of the cases which he has seen, the symptoms were extremely mild, but in the other three strong

symptoms of putrescency were manifested, and the life even of the patient was in great danger. With respect to the method of cure, he is of opinion, that the general symptoms of weakness, and tendency to putrefaction, obviously point out the proper treatment. Nourishment must be supplied, and the Peruvian bark and wine carefully administered; and when vesicles appear on internal parts, irritation must be guarded against by opiates, demulcents, and gentle laxatives.

Some subsequent observations on pemphigus were published in the London Medical Journal by Mr. Thomas Christie. From a case which Mr. Christie describes, he is disposed to agree with Dr. Dickson in thinking that, sometimes at least, pemphigus is not contagious. He remarks, however, that the pemphigus described by some foreign writers was extremely infectious; circumstances which he thinks may lead to a division of the disease into these two species, the pemphigus *simplex* and *complicatus*; both of which, but especially the last, seem to vary much with respect to mildness and malignity.

In the Memoirs of the Medical Society of London, we find the following history of a case of pemphigus, by Mr. Gaitskel, surgeon at Rotherhithe, which we think a suitable addition to this article.

“ John Thompson, aged 44, of the sanguine temperament, but remarkably healthy, after sweating profusely with hard labour, was attacked on the night of August the 12th, with a sensation of prickling in the skin; particularly, on the breast and neck, inside of the arms, legs, and thighs. This was succeeded by several small vesicles, about the size of peas, distended with a pellucid serum: these extended themselves in all directions, and in three days acquired their greatest magnitude.

“ Their shapes were various, some being round, others oval; the long axis of many being more than an inch. In this state they remained stationary; but changed their colour to a pale yellow: continued near a week, and then burst. A few of the largest gave a slight sense of scalding, but no inflammation, the intermediate skin being quite pale.

“ There was a succession of crops from August the 12th, till September the 5th; the number amounting to more than two hundred: though the affection of the skin was general, there was no fever, so that medicine seemed to be useless, excepting a placebo to amuse the mind, and some mild ointment, after snipping the bladders, to prevent the irritation of exposure. Under this treatment they healed rapidly, the cuticle disquamating. The skin having now lost the vesicular tendency, the man went to work, and remains well in his old occupation of chayman and huffer.”

Mr. Gaitskel makes the following remarks on this case:

“ The case which I have described,” says he, “ is the *pemphigus major*, an uncommon disease, and, in this instance, not entitled to be classed in the exanthemata febrilia of our two great nosologists, Cullen and Sauvages. The latter defines it ‘*eruptio phlyctænarum avellaneæ circi et magnitudinem fero diluto flavo turgidarum* *.’ And this definition under the head *Impetigines*, would be agreeable to truth, if we admit that there be two kinds, acute and chronic; the first attended with fever, the latter without; of which, in my opinion, there is not a doubt.

“ In other exanthemata, as *erysipelas*, and *urticaria*, we have two kinds, one acute, the other chronic: the same obtains in *pemphigus*. Of the latter I have met with but two instances, of the former none. One is the case I have related, the other at the Edinburgh infirmary, under Dr. Gregory. This was a woman, aged 26, who had it very generally, even to the passing into her mouth, down the *œsophagus*, and through the whole track of the intestinal canal, but yet unattended with fever. It was preceded by *hæmatemesis* and *amenorrhœa*, and was her fourth attack. There are two chronic cases mentioned by Sauvages, but five where fever made a part; also, one well-described case, with eruptive fever, by my ingenious friend, Dr. Stephen Dickson, in the Transactions of the Royal Irish Academy, for the year 1787. Therefore, I think, there will be great propriety in placing that with fever, among the *exanthematicæ* of Cullen and Sauvages, and the chronic, among *impetigines*, or *vicia externa*, with this definition of Linnæus, “*Vesicula serosa, dilatata, pelucida, basi inflammata, rupta dolens* †.”

“ With respect to Dr. Cullen, he declares but once having seen a case of *pemphigus*, and that was shewn him by Dr. Home; but it was not said whether with fever or without; and this was posterior to his last publications: however, as the doctor has read all that is written on the disease, and, in his synopsis, has made it contagious, and the vesicles to appear on the first, second, or third day, we shall see that this is liable to objections. In the febrile case of Dr. Dickson, new vesicles appeared every day for more than a fortnight; and, in the two cases which fell under my cognizance, they appeared in succession for more than three weeks. In the next place it has never yet proved contagious, else why does it not multiply itself like other contagions? instead of which, there are very experienced men who have never seen it, and others, but a solitary case or so. To prove with more certainty its uninfected nature, I submitted to the experiment of inoculation, but without being infected; therefore have reason to conclude, that it is not contagious, and that limiting the erup-

* Vide Sauvages, Class III. O. I. Exanthematicæ. Gen. III.

† Vide Nosolog. Meth. Linnæi, Class XI. Vicia. Gen. 274.

tion to a period of three days, and making it contagious, is not agreeable to experience.

“ I have mentioned the occurrence of pemphigus, in the same patient, four different times :—this is a curious fact, and shews a strong constitutional tendency ; which instead of being altered by the action of the disease, as happens in variolous and morbillous inflammation, only modified the skin to renew it again. Therefore it shews no affinity with these diseases, but great alliance with other chronic eruptions, as erythema, nettle-rash, and shingles, which, instead of destroying the skin’s susceptibility, only increase its readiness to produce it. This, by analogy, may be transferred to other cutaneous affections which are apt to relapse, and, perhaps, with great propriety to pemphigus.

“ With respect to the cause of vesicular eruptions, it is difficult to be traced ; probably some unknown state of the atmosphere, by stimulating the extremities of the exhalent arteries, combined with strong cutaneous susceptibility, may produce a new modification of action, and cause the phenomena recited. We have many instances where the natural actions of parts are so altered by a variety of internal as well as external causes, which we are unacquainted with, but know to exist by their effects, that my conjecture is not quite improbable. That an alteration of action will give a variety of phenomena, we have the clearest proof ; for in the hydrophobic, cancerous, syphilitic, variolous, and morbillous inflammations, the mildest fluids are actually changed into animal poisons, and all this by some specific action induced upon the vessels which they pass through. This being granted, it may reasonably be employed to explain many cutaneous appearances, which can never be comprehended under the common idea of general acrimony, or particular ferments. The phenomena of small-pox are explained upon the principle of a ferment, and that of measles upon an acrimony of the blood, but with what propriety I will now leave to be judged. The same was supposed to occur in syphilis, till the ingenious Mr. Hunter proved it erroneous, and that syphilitic blood would not infect, however violent the specific disease was. Why in small-pox and measles the solids should be so altered, as to be rendered incapable of producing their specific symptoms more than once, while others retain a latent susceptibility to recur again, is beyond my ability to explain, and, therefore, I shall leave it unattempted.

“ My opinion of pemphigus therefore is this, that it is sometimes *acute*, and sometimes *chronic* ; the former being constantly attended with fever, the latter as constantly without : that in neither case it is an acrimonious, or contagious matter, thrown off from the blood ; but pure serum, secreted by the cutaneous exhalent arteries ; and if acrimony exists, must be attributed to the

action of the vessels it passes through. This takes place in catarrh, where the mild mucus of the nostrils and trachea is changed into a stimulating ichor; and in purulent ulcers, we have instances of the mildest matter being rendered corrosive, by local irritations:—enough to explain the origin of acrimony.

“ I was induced by curiosity to examine the fluid contained in the vesicles, and see whether it possessed any outward signs of stimulating powers, but found it similar to the serum of blood, only much less saline, and less saturated with coagulable lymph. Of a pale yellow colour, but quite transparent, and slippery between the fingers, like a thin solution of gum-arabic. It was also insipid and inodorous. A quantity collected in four different vials was exposed to the action of three concentrated mineral acids, and rectified spirit of wine. With each it was decomposed, the coagulable matter separating in the form of white flakes: the same happened to the serum of blood; but more coagulum. The proportion of coagulum in the vesicular liquor was two grains in thirty-two.—In some of the vesicles of five days, the coagulable lymph had separated spontaneously, two thirds of the liquor being thin, the remainder adhering to the secreting surface, tremulous like jelly. In a few days this was absorbed, and new cuticle supplied its place, the old one falling off in the form of brown scales.”

Mr. Gaitskel thinks, with respect to the *cure*, when it is of the *chronic* kind, that the most mild ointments are all that is necessary; but if of the *acute* kind, the principal attention, he says, must be paid to the fever; yet, not neglecting the local remedies. In most cases, attended with fever, there has been great debility, and bark with wine have been liberally required; but sometimes it has been more inflammatory, in which case bleeding has been employed with advantage. This, however, must be left to the discretion of the practitioner. When it happens that the vesicles enter the mouth and alimentary canal, the patient must be supported by clysters of broth or milk, till the stomach is fitted to receive food; and tonics must be had recourse to afterwards, to complete the cure.

As facts are greatly wanted to convey an adequate knowledge of this disease, we shall add another case of pemphigus, by Mr. Upton, a practitioner in London.

Mrs. D——, aged thirty-four years, rather of a delicate constitution, on the 22d of November, 1787, complained of a considerable itching and uneasy sensation on different parts of the surface of her body; and on the same evening, three large vesicles, containing a serous fluid (some of which were, as large as the section of a lemon), appeared upon her left hand and arm, attended with some tumefaction of the subjacent parts, and much pain. The heat of the body, pulse, and appearance of the tongue,

were natural. Upon discharging the fluid from the blisters, the pain became easier, and by the use of emollient applications, the symptoms disappeared. She was four months gone with child, and previous to this attack, had suffered much fatigue both of body and mind, which brought on languor, a bad appetite, head-ach, profuse uterine hæmorrhage, and much consequent debility; from this state she was recovering when this cuticular affection took place. On the 23d of the same month, a fresh crop of vesicles appeared upon the arm and chest, attended with heat, quick pulse, and a great dejection of spirits. Bleeding, a spare regimen, and a cooling plan, were used till the 26th, when her pulse was much quickened, her strength diminished, and she had no sleep during the whole time. By further medical advice a more generous diet and an opiate were directed.

On the 27th the symptoms being increased, a blister was applied between the shoulders.

On the 28th she was much relieved, and in better spirits: she continued in this manner with little alteration, except a vesicle appearing now and then, on different parts, until

December 1, when she complained of soreness in her throat, extending to the stomach, with depraved taste, and difficulty in swallowing her food: she had great languor, not much increase of bodily heat, but had a pain of the stomach and bowels on external pressure. She was ordered the bark with a nutritious diet; which plan was continued until near the middle of the month, when she had a gradual but slow re-establishment of her health. In the latter stage of her pregnancy she appeared uncommonly large in her body, and had swelled legs, with a scarcity of urine. During labour, and previous to the rupture of the membranes, a considerable quantity of water was discharged from the uterus; likewise the child, after birth, vomited a great deal of the same fluid, and had its whole skin in a state of œdema. Sauvages gives a history of this disease under the title of *Pemphigus major*; but does not mention its ever attacking the alimentary canal.

“ I once before,” says Mr. Upton, “ saw a case of this kind at Edinburgh, under the care of Dr. Gregory, where the patient had it in a severe manner both externally and internally, and had been afflicted with it once before.—Both times it was preceded by a vomiting of blood. The vesicles, putting on a gangrenous appearance, led the doctor to order the bark and wine freely; but she could not use them in any large quantity, because of a soreness in her throat, which grew daily worse, until she was obliged to be nourished several days by clysters, and take opiates: after which she gradually recovered.

“ We have here two cases of a singular disease, not frequently occurring, nor fatal, nor difficult of cure, viz. an external vesication of the skin with fever, and an uncommon languor and

lowness of spirits, arising in a convalescent, or previous debilitated habit; and I am of opinion that the application of blisters at different intervals will relieve this languor and lowness in a manner similar to their effects in miliary fever, as well as prove a necessary anticipation of nature's operation in forming vesicles, which, on appearing always relieved the disorder."

GENUS XXXV. APHTHA.

The THRUSH.

Aphtha, *Sauv.* gen. 100. *Lin.* 9. *Sag.* 298. *Boerh.* 978. *Hoffm.* II. 478. *Junc.* 137.
Febris aphthosa, *Vog.* 44.

The only idiopathic species is the thrush to which infants are subject; (*Aphtha lactucimen*, *Sauv.* sp. 1.)

1. *Description.*] *Aphthæ* are whitish or ash-coloured pustules, invading the uvula, fauces, palate, tonsils, inside of the cheeks, gums, tongue, and lips. They, for the most part, begin at the uvula, sending forth a glutinous mucus, and the pustules covering all or the greatest number of the parts above mentioned with a thick whitish crust adhering most tenaciously. The crust does not induce an eschar on the parts on which it lies by eating into them, but comes off in whole pieces after the pustules have arrived at maturity. This will often happen in a short time, so that the throat and internal parts of the mouth are frequently observed to be clean, which a few years before were wholly covered with white crusts. Neither is this disease confined to the throat and fauces, but is said to affect the œsophagus, stomach, and all parts of the alimentary canal. Of this, however, there is no other proof, than that, after a great difficulty of swallowing, there is sometimes an immense quantity of *aphthæ* evacuated by stool and vomiting, such as the mouth could not be thought capable of containing.

2. *Causes, &c.*] The *aphthosæ* fever seems to be produced by cold and moisture, as it is found only in the northern countries, and especially in marshy places; and in them the *aphthæ* often appear without any fever at all.

3. *Prognosis.*] There is no symptom by which the coming of *aphthæ* can be foretold, though they are common in many fevers; but they themselves are in general a bad symptom, and always signify a very tedious disorder: the danger denoted by them is in proportion to the difficulty of deglutition, and a diarrhœa accompanying them is likewise bad. This indeed generally carries off old people when they become affected with *aphthæ*. The dark-

coloured aphthæ are also much more dangerous than such as are of a brown or ash colour; but it is a good sign when the appetite returns, and the dark-coloured ones are succeeded by others of a whiter colour. Neither are those which are unaccompanied with fever so dangerous as the other kind.

4. *Cure.*] As aphthæ are seldom a primary disease, we must generally endeavour to remove the disorder upon which they depend, after which they will fall off; but in the mean time we are not to neglect applications to the aphthæ themselves, such as the detergent gargles (No. 73.) or (No. 74.), or either of the following from the Pharmacopœia of Guy's Hospital:

(No. 185.) ℞ Boracis in pulv. trit. ʒij.

Aquæ rosæ ʒvj.

Mellis Rosæ ʒj.

Fiat Gargarisma.

(No. 186.) ℞ Decocti hordei ʒxiv.

Mellis rosæ ʒij.

Acid. vitriol. dilut. ʒifs.

Fiat Gargarisma.

Or the *Linimentum e Borace* of St. Thomas's may be now and then applied.

(No. 187.) ℞ Ol. Amygdal. ʒj.

Vitellum ovi unius.

Boracis pulverati ʒj.

Misce fiat Linimentum.

Where any of these are applied to the mouths of infants of a very tender age, a proportionable diminution must be made in the stimulating ingredients included in their composition.

ORDER IV. HÆMORRHAGIÆ.

HÆMORRHAGIES.

Hæmorrhagiæ, *Vog.* Class II. Ord. I. *Hoffm.* II. 194. *Junck.* 5.
Sanguifluxus, *Sauv.* Class IX. Ord. I. *Sag.* Class V. Ord. I.

GENUS XXXVI. EPISTAXIS.

BLEEDING AT THE NOSE.

Hæmorrhagia, *Sauv.* gen. 239. *Lin.* 173. *Sag.* gen. 174.

Hæmorrhagia narium, *Hoffm.* II. 196. *Junck.* 6.

Hæmorrhagia plethorica, *Sauv.* sp. 2. *Hoffm.* II. 198.

The other species enumerated by authors are all symptomatic.

1. *Description.*] The milder species of this hæmorrhagy comes on more frequently in summer than in winter, and for the most part without giving any warning, or being attended with any inconvenience; but the less benign kind is preceded by several remarkable symptoms. These are, congestions of the blood, sometimes in one part, and sometimes in another, and which are often very troublesome in the sides of the head; there is a redness of the cheeks; an inflation of the face, and of the vessels of the neck and temples; a *tinnitus aurium*; a heavy pain of the eyes, with a prominence, dryness, and sparks; there is a vertiginous affection of the head, with an itching of the nostrils, and a sense of weight, especially about the root of the nose. In some the sleep is disturbed with dreams about blood, fire, &c. Frequently the belly is costive; there is a diminution of the quantity of urine, a suppression of sweat, coldness of the lower extremities, and tension of the hypochondria, especially the right one.

2. *Causes, &c.*] This hæmorrhagy may occur at any time of life; but most commonly happens to young persons, owing to the peculiar state of the system at that time. Sometimes, however, it happens after the *ακμή*, and during the state of manhood; at which time it is to be imputed to a plethoric state of the system; to a determination of the blood, by habit, to the vessels of the nose; or to the particular weakness of those vessels.

In all these cases the disease may be considered as an arterial hæmorrhagy, and depending upon an arterial plethora; but it sometimes occurs in the decline of life, and may then be considered as the sign of a venous plethora in the vessels of the head. It often happens at any period of life in certain febrile diseases, which are altogether or partly of an inflammatory nature, and which shew a particular determination of the blood to the vessels of the head. As, by this evacuation, other diseases are often removed, it may on these occasions be deemed truly *critical*. It happens to persons of every constitution and temperament; but most frequently to the plethoric and sanguine, and more commonly to men than women.

3. *Prognosis.*] In young people the bleeding at the nose may be considered as a slight disease, and scarce worth notice. But, even in young persons, when it recurs very frequently, and in great quantity, it is alarming; and is to be considered as a mark of an arterial plethora, which in the decline of life may give the blood a determination to parts from which the hæmorrhagy would be more dangerous. And this will require more particular attention as the marks of plethora and congestion preceding the hæmorrhagy are more considerable, and as the flowing of the blood is attended with a more considerable degree of febrile disorder. These consequences are more especially to be dreaded, when the epistaxis happens to persons after their *ακμή*, returning frequently and

violently. Even in the decline of life, however, it may be considered as in itself very salutary; but at the same time it is a mark of a dangerous state of the system, *i. e.* of a strong tendency to a venous plethora in the head, and it has accordingly been often followed by apoplexy, palsy, &c. When it happens in febrile diseases, and is in pretty large quantity, it may be generally considered as critical and salutary; but it is very apt to be too profuse, and thus becomes dangerous. It sometimes occurs during the eruptive fever of some exanthemata, and is in such cases sometimes salutary; but if these exanthemata be accompanied with any putrid disposition, this hæmorrhagy, as well as artificial blood-lettings, may have a very bad tendency.

4. *Cure.*] The treatment in cases of epistaxis may be referred to two heads: 1st, The treatment during the time of the discharge; and, 2^{dly}, The treatment after the discharge is stopped, with the view of preventing the return of it. During the former of these periods it is necessary, in the first place, to consider whether the discharge should be left to its natural course, or stopped by artificial means. In determining this question, regard must be paid to the quantity of the discharge, the appearance of the blood, the constitution in which epistaxis occurs, the former habit of the patient, and the consequences which result from the discharge. When, from due consideration of these circumstances, there is reason to fear that further evacuation would be attended with bad consequences, though this disease has been generally thought very slight, it should seldom be left to the conduct of nature; and in all cases it should be moderated by keeping the patient in cool air, by giving cold drink, by keeping the body and head erect, by avoiding any blowing of the nose, speaking, or other irritation; and if the blood has flowed for some time, without shewing any tendency to stop, we are to attempt the suppression of the hæmorrhagy, by pressing the nostril from which the blood flows; plugging it with lint, dipped in vinegar or a solution of alum, vitriolated zinc, or vitriolated iron; washing the face with cold water, or applying cold to some other parts of the body. These measures Dr. Cullen judges to be proper even on the first attacks, and in young persons, where the disease is the least hazardous: but they will still be more requisite if the disease frequently recurs without any external violence; if the returns happen to persons disposed to a plethoric habit; and more particularly if the signs of plethora appear in the symptoms preceding the discharge.

When the bleeding is so profuse that the pulse becomes weak and the face pale, every means must be used to put a stop to it, and that whether the patient be young or old. Besides those methods above mentioned, we must use astringents both internal and external; but the latter are the most powerful, and the choice of

these may be left to the surgeon. The internal astringents are indeed immediately suited to internal bleedings, from the œsophagus, stomach, primæ viæ, &c. in cases where there is great weakness of the vessels and constitutional debility. They are either vegetable or fossil; but the vegetable astringents are seldom powerful in the cure of any hæmorrhagies except those of the alimentary canal. The fossil astringents are more active, but differ considerably in strength from one another.—The preparations of lead in this view are powerful; but cannot be employed on account of their pernicious qualities, unless in cases of the utmost danger. The common white lead, in the dose of four or five grains, has been successfully given in hæmorrhagies of the alimentary canal; but besides the deleterious qualities of this mineral, it is undeserving of a preference over chalybeates, which are not only void of injury to the patient's constitution, but are far more powerfully astringent. The *tinctura ferri muriati* may be given in doses of twenty drops or more, and repeated every hour till the bleeding ceases; but this only in cases where it may be expected to reach the bleeding vessel, and act as a topic; for otherwise it may quicken the circulation, and do harm. Another safe, and at the same time powerful, astringent is alum, which Dr. Saunders administers in the following way:

(No. 188.) ℞. Alumin in pulv. trit. gr. x.

Conf. rosæ rub. ʒj.

Fiat Bolus bis terve indies sumendus.

The vegetable astringents the Doctor recommends in hæmorrhagies of the primæ viæ are the following:

(No. 189.) ℞. Catechu in pulv. trit. ʒj.

Confect. opiat. gr. x.

Confect. aromat. q. s.

Fiat Bolus bis terve in die sumendus.

(No. 190.) ℞. Mist. cretac. ʒvi.

Tinct. catech. vel

Tinct. kino ʒss.

Confect. opiat. ʒj.

Misce.

Dosis cochlearia duo vel tria, concusse prius vitro.

(No. 191.) ℞. Elect. catecu (Pharm. Edin.) q. pl.

Dosis a scrupulis duobus ad scrupulos quinque.

Where access can be had to the mouth of the bleeding vessel, the *Alum Lotion* of St. Bartholomew's, applied on lint, may suffice.

(No. 192.) ℞. Aluminis in pulv. trit. ʒij.

Aquæ distillatæ ʒviiij.

Misce fiat Lotio.

If the alum be dissolved in vinegar, it will be still more effectual as a styptic.

For suppressing this and some other hæmorrhagies, many superstitious remedies and charms have been used, and said to have been employed with success. This has probably been owing to the mistake of the by-standers, who have supposed that the spontaneous cessation of the hæmorrhagy was owing to their silly remedy. At the same time, Dr. Cullen is of opinion, that such means have been accidentally useful, by impressing the mind with horror or dread. Opiates have sometimes proved successful in removing hæmorrhagies; and when the fulness and inflammatory diathesis of the system have been previously taken off by bleeding, they may, in Dr. Cullen's opinion, be used with safety and advantage. Ligatures have been applied upon the limbs, for retarding the return of the venous blood from the extremities; but their use seems to be ambiguous. In the case of profuse hæmorrhagies, no care is to be taken to prevent the patient from fainting, as this is often the most certain means of stopping them; nor should cordials or volatile remedies be used to restore the patient, as they quicken the impetus of the blood, and thus augment the hæmorrhagy.

GENUS XXXVII. HÆMOPTYSIS.

SPITTING OF BLOOD.

Hæmoptysis, *Sauv.* gen. 240. *Lin.* 179. *Veg.* 84. *Sag.* gen. 175. *Funch.* 8.

Hæmoptœ, *Boerb.* 1198.

Sanguinis fluxus ex pulmonibus, *Hoffm.* II. 202.

Sp. I. HÆMOPTYSIS, from *Plethora*.

Sp. II. HÆMOPTYSIS, from *External Violence*.

Hæmoptysis accidentalis, *Sauv.* sp. 1.

Hæmoptysis habitualis, *Sauv.* sp. 2.

Hæmoptysis traumatica, *Sauv.* sp. 12.

Sp. III. HÆMOPTYSIS, with *Phthisis*.

Hæmoptysis phthisica, *Sauv.* sp. 9.

Hæmoptysis ex tuberculo pulmonum, *Sauv.* sp. 10.

Sp. IV.° *The Calculous HÆMOPTYSIS.**Hæmoptysis calculosa, Sauv. sp. 14.*Sp. V. *The Vicarious HÆMOPTYSIS.**Hæmoptysis catamenialis, Sauv. sp. 4.**Hæmoptysis periodica, Sauv. sp. 5.*

1. *Description.*] This hæmorrhagy commonly begins with a sense of weight and anxiety in the chest, some uneasiness in breathing, pain of the breast or other parts of the thorax, and some sense of heat under the sternum; and very often it is preceded by a saltish taste in the mouth. Immediately before the appearance of blood, a degree of irritation is felt at the top of the larynx. The person attempts to relieve this by hawking, which brings up a little florid and somewhat frothy blood. The irritation returns; and in the same manner blood of a similar kind is brought up, with some noise in the wind-pipe, as of air passing through a fluid. Sometimes, however, at the very first, the blood comes up with coughing, or at least somewhat of coughing, and accompanies the hawking above mentioned.

The blood is sometimes at first in very small quantity, and soon disappears; but in other cases, especially when it frequently recurs, it is in greater quantity, and often continues to appear at times for several days together. It is sometimes profuse, but rarely in such quantity as, either by its excess or by a sudden suffocation, to prove immediately mortal.

It is not always easy to discover whether the blood evacuated by the mouth proceeds from the internal surface of the mouth itself, from the fauces or adjoining cavities of the nose, from the stomach, or from the lungs. It is, however, very necessary to distinguish the different cases; and for this Dr. Cullen offers the following considerations:

1. When the blood proceeds from some part of the internal surface of the mouth, it comes out without any hawking or coughing; and generally, upon inspection, the cause is evident.

2. When blood proceeds from the fauces, or adjoining cavities of the nose, it may be brought out by hawking, and sometimes by coughing. In this case there may be a doubt concerning its real source, and the patient may be allowed to please himself with the thoughts that the blood does not come from the lungs. But the physician must remember that the lungs are much more frequently the source of an hæmorrhagy than the fauces. The latter seldom happens but to persons who have before been liable to an hæmorrhagy from the nose, or to some evident cause of erosion;

and in most cases, by looking into the fauces, the distillation of the blood from thence will be perceived.

3. When blood proceeds from the lungs, the manner in which it is brought up will commonly shew from whence it comes; but, independent of that, it may also be known from the causes of hæmoptysis from the lungs, to be afterwards mentioned, having preceded.

4. When vomiting accompanies the throwing out of blood from the mouth, we may generally know the source from whence it proceeds, by considering that blood does not proceed so frequently from the stomach as from the lungs; that blood proceeding from the stomach commonly appears in greater quantity than from the lungs. The pulmonary blood also is usually of a florid colour, and mixed with a little frothy mucus only; but the blood from the stomach is of a darker colour, more grumous, and mixed with the other contents of the stomach. The coughing or vomiting, as the one or the other happens first to arise, may sometimes point out the source of the blood; and this hath also its peculiar antecedent signs and causes.

2. *Causes, &c.*] An hæmoptysis may be produced at any time of life by external violence; and, in adult persons, while the arterial plethora prevails in the system, *i. e.* from the age of sixteen to thirty-five, an hæmoptysis may at any time be produced merely by a plethoric state of the lungs. More frequently, however, it arises from a faulty proportion between the capacity of the lungs and that of the rest of the body. Thus it is often an hereditary disease, which implies a peculiar and faulty conformation.

This disease especially happens to persons who discover the smaller capacity of their lungs by the narrowness of their chest, and by the prominence of their shoulders; which last is a mark of their having been long liable to a difficulty of respiration. In such cases, too, the disease very frequently happens to persons of a sanguine temperament, in whom particularly the arterial plethora prevails. It happens also to persons of a slender delicate make, of which a long neck is a mark; to persons of much sensibility and irritability, and therefore of quick parts; to persons who have formerly been liable to hæmorrhages from the nose; to those who have suffered a suppression of any usual hæmorrhagy, the most frequent instance of which is in females, who have suffered a suppression of the menstrual flux; and, lastly, to persons who have suffered the amputation of any considerable limb.

All this constitutes the predisponent cause of hæmoptysis; and the disease may happen merely from the predisponent cause arising to a considerable height. But in those who are already predisposed, it is often brought on by the concurrence of various occasional and exciting causes. One of these, and perhaps a fre-

quent one, is external heat; which, even when in no great degree, brings on the disease in spring, and the beginning of summer, while the heat rarifies the blood more than it relaxes the solids, which had before been contracted by the cold of winter. Another exciting cause is a sudden diminution of the weight of the atmosphere, especially when concurring with any effort of bodily exercise. The effort, too, alone may often be the exciting cause in those who are already predisposed; and more particularly any violent exercise of respiration. In the predisposed, also, the disease may be occasioned by any degree of external violence.

3. *Prognosis.*] Hæmoptysis may sometimes be no more dangerous than a hemorrhagy from the nose: as when it happens to females, in consequence of a suppression of their menses; when, without any marks of predisposition, it arises from external violence; or, from whatever cause arising, when it leaves no cough, dyspnœa, or other affection of the lungs, behind it. But, even in these cases, a danger may arise from too large a wound being made in the vessels of the lungs, from any quantity of red blood being left to stagnate in the cavity of the bronchiæ, and particularly from any determination of the blood being made into the vessels of the lungs, which, by renewing the hemorrhagy, may have these consequences.

4. *Cure.*] In the treatment of this disease, with a view of stopping the discharge, it is first necessary to have recourse to those measures which tend to diminish the impetus by which the blood is expelled. This is to be effected by a removal of plethora when it exists; by diminishing the general impetus of circulation; by diminishing local increased action when it takes place in the vessels of the lungs; and by producing a determination of blood to other parts of the system remote from the lungs. But besides the means of diminishing impetus, it is often also necessary to employ such as augment the resistance to the passage of blood through the ruptured vessels of the lungs. With these views a variety of remedies may be employed, particularly blood-letting, refrigerants, sedatives, astringents, and the like.

On this subject Dr. Cullen differs from those who prescribe chalybeates and the Peruvian bark in the cure of hæmoptysis. Both of these, he observes, contribute to increase the phlogistic diathesis then prevailing in the system, and the hæmoptysis from predisposition is always accompanied with such a diathesis. Instead of these, therefore, he recommends blood-letting in greater or smaller quantity, and more or less frequently repeated as the symptoms shall direct. At the same time cooling purgatives, such as (No. 19.) or (No. 55.), are to be employed, and every part of the antiphlogistic regimen is to be strictly enjoined. In the

London Medical Observations, the use of nitre is greatly recommended by Dr. Dickson, to whom its efficacy was made known by Dr. Letherland, physician to St. Thomas's hospital. The most commodious method of exhibiting it he found was in the following form :

(No. 193.) ℞ Nitri in pulv. trit. ʒss.

Conf. rosæ ʒiv.

Syr. simp. q. f. Misce.

Fiat Electuarium.

Of this the bulk of a large nutmeg was directed to be given four, six, or eight times a-day, according to the urgency of the case. The good effects of it, he tells us, have often astonished him; and when given early in the disease, he says, he can depend as much upon it for the cure of an hæmoptysis, as on the bark for the cure of an intermittent. He agrees with Dr. Cullen, however, that in those cases where there is any hardness in the pulse, and which almost always happens, there is a necessity for venesection. A cool regimen, and quiet of body and mind, are certainly useful; but Dr. Cullen observes, that some kinds of gestation, such as sailing, and travelling in an easy carriage on smooth roads, have often proved a remedy. When the cough is very troublesome, it is absolutely necessary to exhibit frequently a small dose of an opiate. Dr. Dickson also informs us, that the nitre joined with *spermæti*, or *pulv. e tragacanth comp.* (or with No. 95.), has produced equally good effects with the electuary above mentioned; in the composition of which he at first considered the conserve only as a vehicle for the nitre, though he means not to insinuate that the former is totally destitute of efficacy.

When this hemorrhagy has resisted other modes of cure, and there is reason to apprehend, even from the mere quantity of blood evacuated, that the patient may sink under the discharge, blisters, particularly when applied to the breast, are often had recourse to with great advantage; and the vitriolic acid, properly diluted, both as an astringent and refrigerant, is often employed with very good effects.

The following remarks on this disease are annexed to a paper on phthisis pulmonalis, by Dr. Percival, published in the Memoirs of the Medical Society of London.

“ In the treatment of hæmoptysis,” says the doctor, “ the antiphlogistic plan is now generally adopted in most parts of England; and during the incipient stage of the disorder, when the inflammatory diathesis commonly prevails, much injury may be done by heating styptics and rough astringents: but during its progress the type is often changed; and many cases occur, which, even in their commencement, indicate great laxity of the solids, and tenuity of the fluids. Under such circumstances, venesection,

nitre, and the debilitating class of medicines, are highly improper; though great authorities have sanctioned their use without sufficient discrimination. When the discharge of blood has continued some time, a new state of the system is induced; the heart and arteries seem to lose their due degree of tone; an increased irritability takes place in the ruptured vessel, and in those which are contiguous to it; and thus the impetus of the circulation is partially augmented, with a diminution of its general energy. Remedies, therefore, which rouse the vital powers, and excite an equable action in the vascular system, are clearly indicated. A blister applied to the back has stopped a nasal hæmorrhage; wine drank to intoxication has cured both hæmaturia and hæmoptysis, when other means have failed; and the following fact proves the efficacy of opium in the malady under consideration. Mrs. ———, when about thirty-eight years of age, was attacked with an hæmoptoe. It was supposed to originate from violent retchings, and was afterwards increased by close confinement, and long attendance on a sick child. The quantity discharged from the lungs was from six to ten ounces daily, during the space of more than two months. All the usual means of relief proving ineffectual, and her flesh and strength declining rapidly, the trial of opium was recommended, and happily adopted. She began with taking a grain of thebaic extract every twelfth hour, and by degrees increased each dose to ten grains; so that for a long time she had a scruple of opium administered to her daily. The hæmorrhage quickly abated after the commencement of this course; and by perseverance in it, ceased altogether: but on any omission of the use of opium, she was threatened with a recurrence of the disorder, as she has been necessitated to continue the remedy for nine years; and at this time, August, 1787, takes ten grains every twenty-four hours.

“ The use of the *pediluvium in hæmorrhages* has often been recommended; but with a restriction that its temperature shall not exceed 96 or 100 degrees of Fahrenheit’s thermometer. This prohibition is not well founded if a stimulant be required. When I have occasion to bathe my feet for the head-ach, the water which I use is generally as hot as I can bear it to be; and the sensation which it first produces is that of universal chilliness, attended with rigor. A glow of warmth succeeds, and afterwards a gentle perspiration; but the addition of more hot water renews, in a slighter degree, a momentary feeling of cold. It is obvious that such an operation would be favourable in some cases of hæmorrhage. How is the chilling sensation to be explained? Does the partial stimulus of heat, like that of cold, contract, in its first operation, the small cutaneous vessels?

“ In America the treatment of hæmoptysis widely differs from that which is practised in this country. Dr. Rush informs me

that common salt is the remedy universally employed; that it is administered in large spoonfuls, in a dry form; and that its salutary effects are sudden, and for the most part certain. In a letter, dated Philadelphia, February 16, 1788, he says,

“ I am sorry to find that you entertain a single doubt of the safety or efficacy of common salt in hæmoptysis. I could send you above a hundred cases that establish both. My own would be one of them. On the 2d of April, 1766, I was seized with this disorder. It came on in the middle of the night, and for a while was attended with alarming symptoms. I took a table-spoonful of fine Liverpool salt, and immediately the hæmorrhage was checked. It excited a burning sensation in my throat that gave me some pain; but this pain was probably part of the remedy the salt afforded. To prevent a return of the disorder, as my pulse was full, I lost ten ounces of blood, and lived a few weeks on a vegetable diet. After this I took red bark, from which I derived great benefit; and have never since had the least return of hæmoptysis.”

“ Salt is frequently applied in this country to external wounds as a styptic. In spittings of blood, therefore, which originate about the fauces, it may act in the same way. But such are not the cases to which Dr. Rush refers; and so judicious and experienced a physician could not mistake the spurious for the genuine hæmoptysis. Whether the American practice be adopted amongst us or not, we shall at least be warranted by it to urge more circumspection and discrimination in the use of phlebotomy and refrigerants.”

Much has been said and written of late on the efficacy of that kind of medical practice which has been called *pneumatic*. We purpose to speak of this in another place; but, in the mean time, it cannot be improper to introduce here the following account of the use of *fætitious air* in hæmoptysis. The case was communicated by Dr. Carmichael to Dr. Beddoes.

“ Richard Newberry, aged forty-six, a labourer, of a tall and slender make, sanguine temperament, and who, previous to the attack which I shall describe below,” says Dr. Carmichael, “ enjoyed good health, was, about the beginning of the month of May last, in consequence of repeated intoxication (though naturally of a sober turn), and exposure to cold, seized with hæmoptysis. I saw him some days thereafter, when he complained of pain in his side, and cough, attended with copious expectoration of frothy mucus, for the most part mixed with blood, which was dark and grumous, but at times of a florid colour. His pulse was frequent, and had some degree of hardness; his tongue was white, and he had considerable thirst; his bowels were regular, and his appetite much diminished. For several evenings after the first attack, Mr. Watt, whose servant he is, gave him a pint of

Hydrocarbonate, properly diluted; and which he uniformly inhaled, with the evident good effect of diminishing the heat of his body, and of rendering his pulse soon after both slower and softer. By this treatment the pain in his side and cough were so much mitigated as to suffer him to pass his nights in sleep; but as the pain returned with increase in the morning, accompanied by more frequent cough, I directed that a blister should be applied to his side, and that every four hours he should take, in the form of a pill, a mixture of squill with a small proportion of ipecacuanha, and that the modified air should be continued. The pain of his side was much relieved by the blister, and did not afterwards return in the morning; but in the morning after its operation his pulse was much increased both in strength and frequency, and in that state continued until the evening; when, as formerly, in both respects it was much diminished by the repetition of the hydrocarbonate. The proportion of modified air was now increased to a quart every evening, and continued to occasion, during the inhalation, a grateful sense of warmth in the breast, and slight vertigo; and in the nights to produce sound and refreshing sleep. After this manner he proceeded, the expectoration becoming evidently purulent and offensive, but gradually less mixed with coagulated blood; when, about fourteen days from the date of the first hæmorrhage, having been employed in threshing out some corn, the hæmoptoe returned in considerable degree, preceded by the usual symptoms of flushed cheeks, sense of weight in the breast, with some degree of pain, accompanied by a hawking cough. Mr. Watt, judging by the former beneficial operation of the modified air, and finding his pulse upon this occasion very strong and quick, and his skin very hot, increased the proportion of hydrocarbonate to two quarts, with the most striking advantage; his skin soon thereafter becoming cooler, and his pulse much softer and slower. He passed a good night; but in the morning, when I saw him, he complained, as at first, of his side, coughed frequently, and expectorated blood in considerable quantity. As a blister formerly had removed his pain, I directed another to be applied to his side, which had a similar good effect; and that he should continue the use of the squill and ipecacuanha pill, but in an increased dose. On the third day after the second hæmoptoe, an eruption of the erysipelatous kind spread itself over his right thigh and leg; which induced Mr. Watt to augment the quantity of factitious air to three pints, twice a-day. The discharge of blood soon ceased, and the expectoration again assumed the purulent appearance and offensive smell above described. In a few days the eruption disappeared, and the secretion of the lungs losing its fætor, was expectorated in the usual quantity and of its natural quality. He continued a few days ago in perfect health.

“ On the foregoing case I shall only observe, that Newberry himself uniformly expressed much thankfulness for the benefit he invariably received from breathing hydrocarbonate. Had the inhalation of the modified air been repeated more frequently, would it not alone have been adequate to the complete removal of the pain of his side, and consequent cure? As the squill and ipecacuanha pills never produced any sensible alteration, much cannot be attributed to them in the successful result.”

We give no opinion as to the propriety of adopting this practice in similar cases. The *new system* cannot but soon meet the fate it deserves, since it is fairly submitted to the *only test* which medical men can desire, *experiment*.

PHTHISIS.

PULMONARY CONSUMPTION.

Phthisis, *Sauv.* gen. 276. *Lin.* 208. *Vog.* 319. *Sag.* 101.
Funk. 33.
 Phthisis pulmonis, *Boerb.* 1196.
 Affectio phthisica, five tabes pulmonalis, *Hoffm.* II. 284.

Sp. I. The *Incipient Phthisis*, without expectoration of *Pus*.

Phthisis incipiens, *Morton.* Physiolog. 1. II. cap. 3.
 Phthisis sicca. *Sauv.* sp. 1.

Sp. II. The *Confirmed Phthisis*, with an expectoration of *Pus*.

Phthisis confirmata *auctorum*.
 Phthisis humida, *Sauv.* sp. 2.

Sometimes, notwithstanding all the care we can take, the hæmoptysis will degenerate into a phthisis pulmonalis, or consumption of the lungs; and sometimes an hæmoptysis will be the consequence of this dangerous disorder. It has been indeed supposed, that an ulceration of the lungs or phthisis was the natural and almost necessary consequence of an hæmoptysis; but, according to Dr. Cullen, this is in general a mistake; for there are many instances of an hæmoptysis from external violence, without being followed by any ulceration. The same thing has often been observed where the hæmoptysis arose from an internal cause; and this not only in young persons, when the disease returned for several times, but when it has often recurred during the course of

a long life; and it may easily be conceived, that a rupture of the vessels of the lungs, as well as of the vessels of the nose, may be sometimes healed.

1. *Causes, &c.*] The causes of phthisis Dr. Cullen reduces to five heads: 1. an hæmoptysis; 2. a suppuration of the lungs in consequence of a pneumonia; 3. a catarrh; 4. an asthma; and, 5. tubercles.

(1.) When a phthisis arises from an hæmoptysis, it is probable that it is occasioned by particular circumstances; and what these circumstances are may not always be easily known. It is possible that merely the degree of rupture, or frequently repeated rupture, preventing the wound from healing, may occasion an ulcer; or, it is possible, that red blood effused, and not brought up entirely by coughing, may, by stagnating in the bronchiæ, become acrid, and erode the parts. But these hypotheses are not supported by any certain evidence; and from many observations we are led to think, that several other circumstances must concur in producing the disease from hæmoptysis.

(2.) The second cause of an ulceration of the lungs mentioned above is a suppuration formed in consequence of pneumonia. When a pneumonia, with symptoms neither very violent nor very slight, has continued for many days, it is to be feared it will end in a suppuration: but this is not to be determined by the number of days; for, not only after the fourth, but even after the tenth day, there have been examples of a pneumonia ending by a resolution; and if the disease has suffered some intermission, and again recurred, there may be instances of a resolution happening at a much later period from the beginning of the disease than that just now mentioned. But if a moderate disease, in spite of proper remedies employed, be protracted to the fourteenth day, without any considerable remission, a suppuration is pretty certainly to be expected; and it will be more certain still if no signs of resolution have appeared, or if an expectoration which had appeared shall have again ceased, and the difficulty of breathing has continued or increased, while the other symptoms have been rather abated.

That, in a pneumonia, the effusion is made which may lay the foundation of a suppuration, may be concluded from the difficulty of breathing becoming greater when the patient is in a horizontal posture, or when the patient can lie more easily on the affected side. That, in such cases, a suppuration is actually begun may be inferred from the patient's being frequently affected with slight cold shiverings, and with a sense of cold, felt sometimes in one, sometimes in another part of the body. We form the same conclusion also from the state of the pulse, which is commonly less frequent and softer, but sometimes quicker than before. That a suppuration is already formed may be inferred from there

being a considerable remission of the pain which had before subsisted; while with this the cough, and especially the dyspnoea, continue, and are rather increased. At the same time the frequency of the pulse is rather increased, the feverish state suffers considerable exacerbations every evening, and by degrees a hectic fever in all its circumstances comes to be formed.

In this state of symptoms, we conclude very confidently, that an abscess, or, as it is called, a *vomica*, is formed in some part of the pleura, and most frequently in that portion of it investing the lungs. Here purulent matter frequently remains for some time, as if inclosed in a cyst; but commonly not long before it comes to be either absorbed and transferred to some other part of the body, or breaks through into the cavity of the lungs, or into that of the thorax. In the latter case it produces the disease called *empyema*; but it is when the matter is poured into the cavity of the bronchiæ that it properly constitutes the phthisis pulmonalis. In the case of empyema, the chief circumstances of a phthisis are indeed also present: but we shall here consider only that case in which the abscess of the lungs gives occasion to a purulent expectoration.

An abscess of the lungs, in consequence of pneumonia, is not always followed by a phthisis; for sometimes a hectic fever is not formed: the matter poured into the bronchiæ is a proper and benign pus, which frequently is coughed up very readily, and spit out; and though this purulent expectoration should continue for some time, if it be without hectic fever, the ulcer soon heals, and every morbid symptom disappears. This has so frequently happened, that we may conclude, that neither the access of the air, nor the constant motion of the lungs, will prevent an ulcer of these parts from healing, if the matter of it be well-conditioned. An abscess of the lungs, therefore, does not necessarily produce the phthisis pulmonalis; and if it be followed by such a disease, it must be in consequence of particular circumstances which corrupt the purulent matter produced, render it unsuitable to the healing of the ulcer, and at the same time make it afford an acrimony, which, absorbed, produces a hectic fever and its consequences.

The corruption of the matter of such abscesses may be owing to several causes; as, 1. That the matter effused during the inflammation had not been a pure serum fit to be converted into a laudable pus, but had been joined with other matters which prevented that, and gave a considerable acrimony to the whole; or, 2. That the matter effused and converted into pus, merely by long stagnation in a vomica, or by its connection with an empyema, had been so corrupted as to become unfit for the purpose of pus in the healing of the ulcer. These seem to be possible causes of the corruption of matter in abscesses, so as to

make it the occasion of phthisis in persons otherwise sound; but it is probable that a pneumonic abscess especially produces phthisis when it happens to persons previously disposed to that disease, and therefore only as concurring with some other causes of it.

(3.) The third cause supposed to produce phthisis is a catarrh; which, in many cases, seems in length of time to have the expectoration of mucus proper to it gradually changed to an expectoration of pus; and at the same time, by the addition of a hectic fever, the disease, which was at first a pure catarrh, is changed into a phthisis. But this supposition is, in the opinion at least of some physicians, liable to several difficulties. The catarrh is properly an affection of the mucous glands of the trachea and bronchiæ, analogous to the coryza and less violent kinds of cynanche tonsillaris, which very seldom end in suppuration. And although a catarrh should be disposed to do so, the ulcer produced might readily heal up, as it does in the case of a cynanche tonsillaris; and therefore would not produce a phthisis.

Further, the catarrh, as purely the effect of cold, is generally a mild disease, as well as of short duration; and, according to Dr. Cullen, there are at most but very few of the numerous cases of it which can be said to have ended in a phthisis. In all these cases in which this seems to have happened, he thinks it probable that the persons affected were peculiarly predisposed to phthisis; and the beginning of phthisis so often resembles a catarrh, that it may have been mistaken for such a disease. It often happens also, to increase the fallacy, that the application of cold, which is the most frequent cause of catarrh, is also frequently the exciting cause of the cough, which proves to be the beginning of a phthisis.

Many physicians have supposed that an acrimony of the fluids, eroding some of the vessels of the lungs, is a frequent cause of ulceration and phthisis; but this appears to Dr. Cullen to be a mere supposition. He acknowledges, that in many cases an acrimony subsisting in some part of the fluids is the cause of the disease; but observes, that it is at the same time probable, that this acrimony operates by producing tubercles, rather than by any direct erosion.

But, notwithstanding these objections, experience affords numerous examples of cases in which a disease, long subsisting under the form of catarrh, has at last degenerated into phthisis, and proved fatal from supervening hectic fever. It must, however, at the same time be allowed, that catarrh, degenerating into a chronic state after subsisting for many years, has of itself often proved fatal without inducing phthisis.

(4.) If phthisis does not frequently follow catarrh, it is still more rarely a consequence of asthma. Innumerable examples are unquestionably afforded of that disease subsisting for many years

without any symptom whatever of phthisis as a consequence of it. But at the same time, there are unquestionable examples of phthisis deriving its origin from asthma; which, however, probably happens only in cases where a peculiar state of the lungs at the same time takes place; but without the concurrence of asthma, this state would not of itself have been sufficient for inducing the affection.

(5.) Of all the causes formerly mentioned, phthisis most frequently arises from tubercles. Dr. Simmons informs us, that he has had opportunities of inspecting the bodies of many people who died in this way, and never found them totally absent. He has likewise seen them in subjects of different ages, who had been troubled with no symptoms of an affection of the breast during their life-time. In these, however, they were small, and few in number. This proves that they may exist without inconvenience till they begin to disturb the functions of the lungs by their size and number; or till some degree of inflammation be excited, either by accidental causes, or by certain changes that take place within their substance; for as yet we know but little of their true nature. These little tumors vary in their consistence; in some they are composed of a pulpy substance, and in others approach more to the nature of scirrhus. They are most commonly formed in consequence of a certain constitutional predisposition; but whatever is capable of occasioning a morbid irritability of the lungs seems also to be capable of generating them. Thus the spasmodic asthma frequently ends in tubercles and consumption; and it is not unusual for millers, stone-cutters, and others, to die consumptive, from their being so constantly exposed to dust, which in these cases probably acts by producing similar concretions; and Dr. Kirkland observes, that scythe grinders are subject to a disease of the lungs from particles of sand mixed with iron-dust, which among themselves they call the *grinders' rot*. Tubercles, however, in by much the greater number of instances, have their source from a scrofulous disposition; and some ancient physicians have supposed, that the generality of pulmonary consumptions are of this kind. This notion, however, they have perhaps carried too far; they have probably been misled by these tuberculous concretions which, without good reason, have been supposed to be diseased glands, and of course analogous to the glandular affections we meet with in the scrofula. Tubercles may likewise sometimes be owing to the sudden repulsion of cutaneous eruptions, or of the matter of exanthemata, &c. or to other causes.

The persons who are most liable to consumption are those of a fair complexion, fine and soft skin, florid cheeks, and a slender make; with high cheek-bones, hollow temples, long neck, shoulders standing out like wings, narrow chest, and a remarkable prominence of the processes of the os sacrum. To these

marks we may add, that of *sound teeth*, which as the disease advances, usually become of a milky white colour, and more or less transparent. Of those who are carried off by this disease, Dr. Simmons asserts, the greater number will be found never to have had a carious tooth. This circumstance, however, does not seem to us to hold so generally as Dr. Simmons is disposed to imagine; and instances not unfrequently occur of patients dying of phthisis, although they have had many teeth subject to caries; and some of these beginning even at an early period of life.

Persons of the above description often remain for a long time without feeling any other inconvenience than some oppression at the breast in moist weather, or in hot apartments. Their breathing is easily hurried, sometimes by the slightest motion; and they become languid, paler, and thinner. All this time, however, they feel no heat or painful sensation in the breast. As the evil increases, the patient begins to be attacked with a slight, frequent, and dry cough, which is most troublesome in the night-time. But this, by proper care, is often relieved, and the patient remains in this state for a considerable time; and even for many years, if he be sensible of his danger, and careful to guard against it by a suitable manner of living. More commonly, however, we find the cough increasing, and sometimes accompanied with more or less catarrh. This is usually ascribed to cold; and but too generally neglected till the disease become alarming by its obstinacy and its effects. This may be considered as the *beginning*, or first period, of the disease. During this stage, the cough is sometimes dry from the first; and sometimes, when it begins in the form of a catarrh, is attended with more or less expectoration of mucus.

When the cough begins in the form of a catarrh, and appears to be occasioned by an increased secretion of a thin saltish mucus irritating the membrane of the trachea, all judicious practitioners agree in recommending an attention to regimen, the free use of diluting liquors, bland emulsions, small doses of nitre, the taking away a few ounces of blood if there be much inflammation, the inhaling the steams of warm water by means of a machine contrived for that purpose, and the occasional use of such a dose of elixir paregoricum as will be sufficient to allay the irritation of the bronchiæ, and to promote a gentle moisture on the skin. These methods will generally be found to be efficacious, especially if the patient's chamber be of a moderate temperature, and he carefully avoid exposure to a cold, damp, or raw air, till the complaint be removed. In cases in which the cough has been obstinate, and the inflammatory symptoms considerable, Dr. Simmons has often experienced the great advantages of the warm bath, the heat of which did not exceed 92. When this is had recourse to, the patient should remain in it only a very few mi-

nutes, and go soon afterwards to bed; but not with a view to force a sweat by an increased weight of bed-clothes, as is too often injudiciously practised.

Patients of a consumptive habit, who have had an attack of this kind at the beginning of winter, are particularly liable to a return of the complaint during a continuance of the cold season, on the slightest occasion, and with greater violence. A relapse is therefore to be carefully guarded against; and nothing will be found to do this more effectually than the use of socks and a flannel under-waistcoat. The use of flannel has been condemned by some medical writers, as increasing the insensible perspiration; but in the present case, to say nothing of some others in which it may be useful, it will in general be found to have the best effects. It will prevent a too great determination to the lungs, and should not be left off till the approach of summer. In some few instances in which flannel was found to have a disagreeable feel, a piece of dimity, worn over the breast next the skin, prevented the return of coughs and colds in persons of a delicate habit, who had before been liable to them on the slightest occasions. Shirts made of cotton cloth are much more effectual than linen in preserving an equable temperature on the surface, and guarding against the action of external cold; while, at the same time, they are much more pleasant to most people than even the finest flannel. In these cases, circumstances that are seemingly of the most trifling nature become of importance.

Sometimes the cough is occasioned by an immediate inflammation of some part of the lungs, from some of the usual causes of inflammation; and when this happens, no time is to be lost in removing it. To do this will, perhaps, require more than one bleeding, together with a strict attention to a cooling plan of diet, diluting drinks, the inhalation of warm steams, and if convenient the use of the warm bath; but above all, the speedy application of a large blister as near as may be to the supposed seat of the inflammation. The cough, in this case, will often remain after the original complaint is abated. A prudent use of opiates at bed-time, either by themselves or combined with gummy and mucilaginous medicines, will then generally be useful as a sedative and antispasmodic.

In this, as well as in the catarrhal cough just now mentioned, many practitioners are too eager to administer the Peruvian bark, with the view, as they term it, of *bracing up* the patient: but this never fails to increase the cough, and of course to do great and very often irreparable mischief.

And here it will not be foreign to our subject to observe, that a symptomatic cough, which has its rise not from catarrh, or from any immediate inflammation of the lungs, but from their sympathy with the stomach, has sometimes laid the foundation of

phthisis, from its having been mistaken, and of course improperly treated. It seems to be owing to a redundancy or vitiated state of the bile, or to some affection of the stomach, which it is perhaps not easy to define. It is sometimes a concomitant of other bilious symptoms; and when this happens to be the case, it cannot easily be mistaken; but we sometimes find it occurring singly, and in general attacking persons of a sedentary life. Dr. Stoll of Vienna, who has noticed this cough, has very properly given it the name of *tussis stomachica*. This complaint is so far from being relieved by bleeding, that it constantly grows worse after it, especially if the evacuation be in any considerable quantity. The oily remedies seldom fail to exasperate this cough, which at first is dry, frequent, and often extremely violent, but which seldom fails to give way to one or two gentle pukes, and the occasional use of mild cathartics. The cough, as in other cases, often continues from habit after the cause that gave rise to it has been removed, and may then be checked by opiates.

When the disease has been neglected, or our attempts to remove it in the beginning have failed, both of which circumstances but too frequently happen, the patient begins to complain of a soreness, and of slight lancinating pains shooting through the breast, sometimes in the direction of the mediastinum, and sometimes confined chiefly to one side. The soreness is pretty constant, and much increased by the cough. The pain in the side often prevents the patient from lying on the side affected; and this inability of lying, except on one side, frequently occurs even when no such pain is felt. In this stage of the disease, flushing heats are felt in the palms of the hands and soles of the feet: the breathing is short and laborious; and it is not long before the patient begins to expectorate a thin and frothy phlegm, at first in small quantities, coughed up with difficulty, and some pain of the breast; and now and then streaked with blood: this may be considered as the *inflammatory period* of the disease, to which succeeds the *suppurative stage*. In the latter, the expectoration becomes more copious and purulent, the breath proportionably offensive, and the exacerbations of the hectic fever more considerable: an increased quickness of the pulse comes on about the middle of the day; but the most considerable paroxysm of the fever is at night, and at first continues till towards morning, commonly till three or four o'clock, when it terminates in a sweat which usually begins upon the breast. As the disease advances, these sweats become more profuse, and sometimes come on almost as soon as the pulse begins to quicken, but without affording any relief to the patient. During the exacerbations, we observed a circumscribed redness of the cheeks, while the rest of the face is pale, and appears as if it were not clean washed. The costiveness that commonly accompanies the beginning of the disease is

usually succeeded by a diarrhœa; the spitting lessens, and all the purulent matter seems to be carried downwards. The wasting of the fat and the loss of nourishment occasion the nails to curve inwards, the hair to fall off, and the eyes to sink in their sockets. In the mean time, the legs commonly swell; till at length death closes a scene which is melancholy to all but the patient himself, who in general continues sensible to the last moment, and even then indulges a vain hope of prolonging a miserable existence. In some cases, and that not unfrequently, a delirium comes on towards the close of the disease.

The hectic fever that attends this and some other chronic diseases, is evidently the effect of acrimony, and most commonly of pus absorbed and carried into the circulation. The nature of this acrimony, and the different irritability of different patients, are probably the sources of the variety we observe in fevers of this denomination; a variety which is doubtless much greater than we are aware of. Thus we find that the matter of the small-pox excites a fever of this kind; but this *secondary fever*, as it is called, differs from the hectic attendant on consumptions; nor does the latter correspond with that which sometimes accompanies the suppuration of a cancerous ulcer. In the pulmonary consumption, or at least in the third stage of it, the fever induced often appears to be of the putrid kind, and has been denominated *febris hectica putrida* by the judicious Morton, who considers it as being combined with a peripneumonic or inflammatory fever, which recurs as often as fresh tubercles begin to inflame. For although we have named one period of the disease the *inflammatory* and another the *suppurative period*, yet we are not to suppose that the latter is exempt from inflammation. While matter is poured into the bronchiæ, or absorbed and carried into the system from one part of the lungs, other parts are in a crude state of inflammation, or advancing towards suppuration; so that, on examining the lungs of persons who die consumptive, we find some tubercles that are small and just formed, some that are large and full of matter, and others that are in a state of ulceration. This easily accounts for the occasional combination of inflammatory symptoms with those of the putrid hectic. When the matter absorbed is a laudable pus, as in the case of a psoas abscess, we find the form of the hectic fever differing from either of those we have mentioned.

Dr. Adams, a physician at Madeira, writes thus on the causes of pulmonary consumption.

“That what is called phthisis pulmonalis is known all over the world cannot be doubted; but the true *English* consumption, is, I believe, peculiar to cold, and chiefly to be dreaded in uncertain climates. It is worth while to mark the etymology of different countries. The Greeks gave the name *Φθισις*, from the idea of corruption. Hippocrates, and his successors, found

in the lungs of some phthical subjects large collections of matter, which, as soon as the sac had any communication with the air, became putrid. Hence they considered the disease a *corruption* of the lungs, and fancied that putrid matter from the liver and other parts, being transferred to that organ, might produce an incurable disease. We find Celsus, with his usual accuracy, making a distinction between *Phthisis* and *tubes*, considering the former as only one species of the latter.

“ But that species of consumption from which originated the term phthisis, is usually the effect of pleurisy, and is very different from another with which it is confounded, and which gave rise to the idea that the expectoration of purulent matter was necessarily fatal. This last disease has its origin in the ramifications of the bronchia. It begins with cough and expectoration of mucus. If these continue for any time in a young subject, there is always an apprehension lest the disease should be confirmed; that is, lest by frequent returns of inflammation the secretion should become habitual. This danger is very much increased if the patient contracts the habit of straining himself into a cough, in order to discharge a small remaining quantity of mucus, which he conceives will continue to irritate as long as it remains in the trachea, but which is in fact only secreted by the parts to protect them from the patient's efforts, consequently in proportion to his diligence is the secretion increased. I have often been astonished how little attention physicians have paid in not admonishing their patients to suppress their cough as much as possible. In all diseased lungs this should be attended to, but more particularly in the last mentioned; for by this constant irritation on a secreting surface, ulceration is at last produced, which when we consider the ramifications of the bronchia, may soon be so extensive as to prove fatal. The only writer I find in my notes who describes this species of consumption is Chalmers, in his ‘Diseases of Carolina;’ it however exists, I believe, in most parts of the world, but principally where the seasons are uncertain, and the inhabitants most subject to coughs.

“ A third cause of consumption is not only found in every part of the world, but is much more common than is suspected. This is the only one that begins with that short dry cough which many writers have considered as the first symptom of consumptions in general. This disease is a chronic inflammation, or frequent habitual, though slight, inflammations of the lungs, which, by repeated effusion of coagulable lymph, produces adhesions of the cellular part of the lungs, and thus obliterates their cavity, or prevents their expansion. The appearance in the dead subject is extremely well described by Dr. Baillie in his *Morbid Anatomy*. Mr. Abernethy, by his frequent examination of the bodies of those who died phthical, detected it so often as to induce him

to consider it one of the most common causes of consumption. This is, I believe, the only species of the disease known in this island (Madeira), if we except those from hæmorrhage and pleurisy, both which are very uncommon.

“ Though all these are very distinct in their origin and progress, yet in the most advanced stages they have many symptoms in common; indeed, excepting the purulent expectoration, which never occurs in the consolidated state of the lungs from the adhesive inflammation, the closing symptoms of each are nearly similar.”

2. *Cure.*] In these different periods of the disease, the curative indications are sufficiently obvious. To prevent the formation of fresh tubercles; to obviate the inflammation of those already formed; to promote their resolution; to allay morbid irritability, the cough, and other troublesome symptoms; and, above all, to check the tendency to the hectic state, are the views that every rational physician proposes to himself in the treatment of the genuine consumption. We know of no medicines that can exert their specific effects upon the lungs by dissolving tuberculous concretions; nor is it probable, from what we know of the animal economy, that any such will ever be discovered. Yet medicines that operate in a general manner upon the system, may, by promoting absorption, and diminishing the determination to the lungs, tend to disperse tubercles, or to prevent their formation. There are not wanting instances of wonderful recovery in cases where the evil was supposed to be beyond the power of physic; and in some where nature was left to herself; so that a physician who has observed the various and powerful resources nature has within herself, will be very cautious how he asserts that a disease is incurable.

The most formidable effects of ulcerated lungs are the absorption and consequent hectic. It seems evident that, in many cases, death is brought on by this, rather than by the lungs themselves being rendered unfit for the purposes of respiration. So that if we can obviate the effects of the absorption, diminish the preternatural determination to the lungs, and fulfil the other general indications just now mentioned, we may very often enable nature to recover herself. It may be alleged, indeed, that the physician's art has hitherto proved very unsuccessful in these cases; but may not this be owing to the remedies that are employed, being very often such as are inimical to the cure?

The Peruvian bark is, perhaps, the most commonly employed of any, and often confided in as an ultimate resource in these cases. But besides this, the acid of vitriol, the balsams, and frequent bleedings, have each had their partisans. The use of blisters and issues, opiates, a milk and vegetable diet, exercise and change of air, are pretty generally recommended by all. Con-

cerning the bark, Dehaen long ago observed, that it had been productive of great mischief in consumptive cases; and Dr. Fothergill, in a paper published by him on this subject, very judiciously remarks, that the bark is so far from curing the hectic fever arising from diseased lungs, that, according to the best of his observation, it not only takes up that time which might probably have been better employed in the use of other medicines, but for the most part aggravates the disease beyond remedy. Indeed it has been the opinion of several attentive observers, that, whenever pus or any kind of matter excites an hectic fever, by being absorbed and carried into the circulation, the Peruvian bark will never fail to exasperate the complaint, especially if it be accompanied with any degree of inflammatory diathesis, unless the matter has a free outlet from the system; as in the case of abscesses, for instance, in which we often find the bark productive of excellent effects. It is likewise well known to be used as a tonic, to obviate the effects of *fluor albus*, or any other immoderate evacuation in delicate persons, which, by enfeebling the system, very often lays the foundation of phthisis: but the moment we have reason to suspect that the lungs are ulcerated, especially if this ulceration be attended with an inflammatory disposition, or if the suppuration of vitiated pus be in consequence of a peculiar increased morbid action of the vessels at the part, it ought to be laid aside; and in the genuine tuberculous consumption, perhaps it is at all times inadmissible.

Dr. Fothergill, however, observes, that there are two causes of consumption, which often produce symptoms so similar to those of the genuine phthisis, as sometimes to have led him to make use of the bark, in apparent tendencies to a genuine pulmonary consumption, with advantage.

One of these causes is, the suckling of children longer than is consistent with the mother's ability. This case frequently occurs among the middling and lower classes of females, of constitutions naturally delicate and tender. In such a state of weakness, some slight cold brings on a cough, which increases gradually, till at length it produces the true pulmonary consumption. Here the bark given early, in moderate doses, and merely as a tonic remedy, is often of excellent use.

Another cause is, any weakening discharge, either from abscesses, the greater operations of surgery, a copious and constant *fluor albus*, or similar enfeebling evacuations. That the bark is, for the most part, of use in these cases, when the lungs are not inflamed, is indubitable; and if they be so affected, but not beyond a certain degree, it is also efficacious in preventing the progress of the consumption.

In phthisical complaints, succeeding such situations, a prudent

trial of the bark seems necessary. Small doses of the decoction, or of the tincture, joined, by a previous mixture with mucilage of gum-arabic, with the saline mixture, or with such other additions as the physician thinks proper, may be given.

The following formula may serve as a specimen:

(No. 194.) R. Tinct. cinchonæ flavæ

Mucilag. arab. gum. sing. ℥j.

Aquæ ammon. acet.

Vel, Kali (Succ. Limon. sat.) ℥ij.

Aquæ distillatæ ℥iv. Fiat mistura cujus capiat
cochl. ij. vel iij. bis terve die.

But if, as too often happens, the breath becomes more tight and oppressed, the cough dry, the pulse more quick and hard, and especially if slight transitory pains or stitches about the thorax are more frequently complained of, a perseverance in the use of the bark will increase the disease. If such also should be the appearances in the progress of the disease, or, from whatever causes, if the bark be accompanied with such effects, the use of it ought to be withheld.

If, on the other hand, no pain, tightness, or oppression, is perceived, and there appears a manifest abatement of the symptoms, it will be advisable to proceed. The administration of this medicine, however, requires a judicious observer; and it ought neither to be given in the early inflammatory stage of this disease, nor be continued in any subsequent period, if it produce the effects above mentioned.

By its tonic virtues it will often enable nature to conquer many difficulties. In confirmation of this remark, Dr. Fothergill farther observes, that he has seen it of use in promoting expectoration, when this became deficient from want of strength towards the end of peripneumonic fevers; but that it stops this discharge, changes slight wandering pains into such as are fixed, and increases them with all their consequences, in a variety of cases.

The diluted *vitriolic acid*, though in many instances a highly useful remedy, is often exhibited in consumptive cases with no less impropriety than the bark. This medicine, from its astringency, is obviously improper from the inflammatory state of the disease. But in the latter stage, when a general tendency to putrefaction takes place, it is serviceable in resisting that effect; it restrains the colligative sweats; and if the lungs be not injured past reparation, it is allowed to be a very useful auxiliary.

Various are the opinions concerning the efficacy of Bristol-water in this disease. The experienced author last mentioned informs us, that he has seen many persons recover from pulmonary diseases after drinking these waters, whose cure seemed to be

doubtful from any other process ; and he thinks this circumstance, added to the general reputation of Bristol-waters in phthical cases, affords sufficient inducement to recommend the trial of them in the early stages of such complaints. It is, however, before the approach of a confirmed phthisis that patients ought to repair to Bristol ; otherwise a journey thither will not only be without benefit, but may even prove detrimental.

Some have imagined, that the journey, a better air, change of situation and of objects, have contributed to the patient's recovery ; and these may doubtless be of advantage. It seems, however, that the water drank fresh at the pump, actually contains principles conducive to the recovery of patients affected with phthical complaints. It seems to possess a slight calcareous stypticity, and perhaps the air it contains may also have an antiseptic quality. On the whole it appears to be an efficacious medicine, and is often found of remarkable benefit to consumptive patients.

Change of air, particularly from good to bad, is of great consequence in all chronic diseases of the lungs. In consumptive cases, the air of all large cities is found to be particularly injurious.

A *sea-voyage* has been much recommended in the cure of this disease. The benefit of exercise has also been strongly urged by many writers ; but, however salutary when properly used, it certainly ought to be regulated with discretion. Dr. Dickson declares himself of opinion, that riding on horseback in consumptive cases is most commonly hurtful, without such regulations as in general have been little regarded. For instance, he has known a person who, by a ride of an hour or two in the morning, was very much recruited, and who, at another time, in the afternoon or evening, without undergoing more bodily motion, has returned faint and languid, and apparently worse. This observation on the same person has been so frequently made, as to point out clearly the times when this exercise shall not do hurt in consumptive cases. In this disease, the pulse, however calm in the morning, becomes more frequent in the afternoon and night, attended with heat and other feverish symptoms. Exercise, therefore, at this time, can only add to the mischief of the fever. For this reason he prudently recommends to all hectic persons, especially to those who shall travel to distant places on account of a better air, or the benefit expected from any particular water, that their travelling should be slow, confined to a very few hours, and only in the morning.

Exercise on horseback seems to be chiefly beneficial in those cases where consumption is a secondary disease. For example, in the nervous atrophy ; in the hypochondriacal consumption ; or when it is the effect of long-continued intermittents, or of congestions

in any of the abdominal viscera; or, in a word, whenever the consumption is not attended with an inflamed or ulcerated state of the lungs; long journeys on horseback will be beneficial. Such a practice may likewise be highly useful in obviating an attack of phthisis, or in carrying off a dry husky cough in a person of a consumptive habit, when there is reason to suppose that no tubercles are as yet formed. On the other hand, in the confirmed phthisis, when the lungs are inflamed or ulcerated, much or violent exercise will be improper; and there have been instances where the death of the patient was evidently accelerated by it. The exercise therefore should be gentle, proportioned to the strength of the patient, and employed only in the morning. In fine weather, an easy open carriage is perhaps the most eligible, not only on account of its being open to the air, but because it affords that kind of agitation which is most wanted in these cases. For if we consider the different modes of exercise, we shall find that walking, though the best exercise in health, as it employs the most muscles, is the worst for the sickly, who should have the benefit of exercise without fatigue. Riding on horseback agitates the viscera more than walking, and is therefore preferable to it in many chronic diseases; but when a preternatural determination to the lungs has taken place, it will be liable to increase the evil, and may likewise be hurtful by the fatigue that attends it. For these reasons it will be prudent to begin with a carriage; and if the patient gain strength, and the disease abate, recourse may afterwards be had to horse-exercise.

The gentle *motion of a coach* has been often found of great utility in pulmonary complaints. Its efficacy seems to depend chiefly on its increasing the determination to the surface of the body. The nausea which this motion excites in some persons is an effect of this increased determination. It has therefore been found beneficial in hæmoptysis; and Dr. Simmons mentions the case of a lady, who, after trying various remedies to no purpose, was cured of this complaint by travelling several hundred miles through different parts of England in her own coach. At first, whenever she tarried three or four days in any place, the disorder began to return again; but at length, by persevering in her journeys, it gradually went off. Default, who practised at Bourdeaux about forty years ago, tells us, he sent several consumptive patients to Baresges, and with good success; but that in these cases his reliance was not so much upon the Baresges waters, as upon the motion of the carriage and the change of air in a journey of more than 100 leagues.

It is now pretty generally acknowledged, that the good effects of sea-voyages in consumptive cases depend more upon the constant and uniform motion of the ship, than upon any particular impregnation of the sea-air; although this from its coolness and

purity may likewise be of great use, especially in the hot months, when sea-voyages are generally undertaken by consumptive patients. The ancients were no strangers to this remedy; and amongst the Romans it was no unusual thing for consumptive persons to sail to Egypt. Pliny observes, that this was done not for the sake of the climate, but merely on account of the length of the voyage.

Many of our English physicians have recommended a *voyage to Lisbon* in these cases. When this is done, the proper season of the year should be carefully attended to. Dr. Simmons knew a gentleman who went thither with symptoms of incipient phthisis, and who experienced some relief during the course of the voyage; but happening to arrive at Lisbon at the beginning of the rainy season, the disease was soon greatly increased, and terminated fatally. Some think the climate of Madeira more favourable. Of this island some particulars, worthy of a place here, are related by Dr. Adams in a letter to a medical friend in London. Alluding to what he has described as the *third* species of consumption (see p. 171), and the result of Mr. Abernethy's dissections of those who have fallen victims to it, he says, "I must discriminate what I mean by a disease before I propose a remedy.

"Mr. Abernethy, in his *Surgical and Physiological Essays*, part i. p. 155, gives many judicious directions, by which the *consumption from consolidated or infarcted lungs*, if you will admit so antiquated an expression, may be discovered at an early period. Whenever we find the short dry cough with emaciation, it should always be suspected; and his test seems sufficient to distinguish the disease from all others, excepting the early stage of numerous small tubercles. To distinguish these two complaints, we should, in the latter, look for other signs of scrofula; but in the former, there is a peculiarity in the cast and character of features which is very striking. Instead of that sensibility which enlivens the scrofulous countenance, and that sanguine disposition which sees, even in the most unfavourable symptoms, a prospect of amendment, we find a stiffness in all the motions of the features, and of the whole body, which is always in a very erect posture. The patient frequently anticipates his doom with a languor and complacency, if possible, more affected than the unfounded hopes of the other victim. When we are satisfied that this is the disease, we may, I think, without change of climate, always insure success, at least as long as the appetite for food continues. Exercise, by which the blood is more determined to the limbs, and occasional evacuations to anticipate that plethora which may have become almost periodically habitual, will seldom fail of success in any climate." Dr. Adams now proceeds to speak more particularly of Madeira.

“ In all cases of *tubercular or scrofulous consumption*,” says he, “ if, as you express it, the patient does not saunter away his time after you have advised him to leave England, we can with certainty promise a cure.—Where the lungs are ulcerated from other causes, it remains for you to determine whether there are powers remaining in the constitution to effect a cure, if the patient is placed in the most favourable circumstances ; for though we see many recover from a situation which invariably proves fatal during the winter in England, yet we have also instances in which an emaciated carcase has been surrendered to the waves during the voyage, or arrived only early enough to be decently interred. In an earlier period of the disease there can be no situation in the world so well calculated for the restoration of diseased lungs as the island of Madeira.

“ The valley of Tunchall is defended by immense hills from every wind but the south, where it is open to the sea breeze ; this preserves a temperature so even, as is unknown in any other part of the world. Our winters may be compared to your summers in every thing but the length of days, and those sudden changes from heat to cold to which you are subject. The thermometer with us is often steady within doors, or varies scarcely a degree for weeks together. During winter, its whole range is from 58 to 65 ; and in summer, from 70 to 75, rarely amounting to 80, the heat being always tempered by a breeze in proportion to the force of the sun. The dryness of our atmosphere is not less remarkable ; this is, I believe, of less consequence in consumptive cases than in those which are called humoral asthma, a disease unknown in this country. For want of good hygrometers, we have hitherto only been able to judge by the absence of fogs, by the rapidity of our rivers, which have refused a nidus to all fresh water fish excepting such eels as can secure themselves under large stones, and by our security from musquitoes and most other gnats ; frogs, toads, and leeches, are equally unknown. Since my arrival, I have not seen or heard of a case of intermittent fever ; and the few dysenteries produced by the autumn, are milder and more easily relieved than those in England. However, to decide the question beyond a doubt, I procured two of Mr. Lane’s hygrometers : one of these was suspended in open Veranda exposed to the beach, and the other at the residence of the Hon. Augustus Phipps, less than a mile out of town, and in a situation generally reputed damp for this country. By Mr. Phipps’s register, which you will receive with this, it appears that the finger rarely pointed higher than 2, and was most commonly lower for more than a month of our rainy season. The other hygrometer was so perpetually at, or near 0, that the gentleman who had the charge of it, grew tired of marking its trifling variations.

" This discussion appears to me of no further consequence, than as far as truth is concerned, till it is found that a dry air is necessary for those who feel a temporary relief from inhaling hydrogen gas, the steam of water, and other analogous substances. The fact is much more to the purpose, that in all cases of scrofulous consumption, not too far advanced, the climate of Madeira proves a certain remedy. The only obvious causes I can offer for this *constant* success are, first, the equal temperature of our climate; next, that the lungs are not irritated by any particles arising from an open fire, or by the contraction of the skin from a partial access of air, which artificial heat will always produce. Our roads too being most of them paved, and no wheel carriages used in the most inhabited part of the island, those clouds of dust never arise which dry weather produces in other parts of the world, which in hot climates will sometimes produce catarrh, and which are always found injurious to weak or diseased lungs. These are, I believe, the principal enquiries you wished to make: it is true, they are of little consequence compared to the important fact you have in view. It is, however, satisfactory to trace probable causes; and it may be well worth your while to try whether spacious buildings, regularly heated, safely ventilated, and large enough to admit of necessary exercise, may not answer the purpose for such whose want of means, of courage, or of leisure, prevent their taking a voyage to a more genial climate."

An unusual species of motion has been extolled as highly useful in consumptive cases, by Dr. James Carmichael Smyth, of London, who has published an account of the effects of *swinging*, employed as a remedy in the pulmonary consumption and hectic fever. In this treatise Dr. Smyth contends, that sea-air, instead of being of advantage, is constantly prejudicial to hectic and consumptive persons, and even to those who have a tendency to such complaints. He thinks, therefore, that the benefit derived from sea-voyages must certainly be referred to some other cause. In stating his sentiments on this subject, he attempts to establish a distinction between exercise and motion. By exercise, he understands muscular action, or the exertion of the loco-motive powers of the body either alone or combined. This he represents as increasing the force and frequency of the heart's contraction, the velocity and momentum of the blood, the quickness of breathing, the heat, the irritability, and the transpiration of the whole body. By motion, in contradistinction to exercise, he means such motion as is not necessarily accompanied with any agitation or succussion of the body, and which is totally independent of any muscular exertion. The effects of this, both on the heart, the lungs, and indeed on the system in general, he considers as of the sedative kind: thus it suspends the action of coughing, and lessens the fre-

quency of the pulse. He is, therefore, led to refer the good effects of sea-voyages entirely to this cause. And on these grounds he was led to conclude, that the motion given by swinging might be of equal if not greater service. This conclusion, we are told, in the treatise above alluded to, experience in many cases has fully confirmed. And he recommends it as a mode of cure which may be employed with advantage in every stage of phthisis. While, however, the reasoning of Dr. Smyth on this subject seems to be liable to many objections, we are sorry to add, that his observations in practice have by no means been confirmed by those of others, who have had recourse to this mode of cure.

The best adapted diet in consumptive cases is milk, particularly that of asses. It may however be remarked, that there are constitutions in which this salutary nutriment seems to disagree. A propensity to generate bile, or too strong a disposition to acescency from a weakness of the digestive organs, both merit attention. Whey, either from cows' or goats' milk, appears to be more suitable in the former case: and for correcting acidity, lime-water may be added to the milk. The method of adding rum or brandy to asses' or cows' milk, should be used with great caution: for when added beyond a certain quantity, as is often the case, they not only coagulate the milk, but heat the body; by which means the former disagrees with the patient, and the spirit augments the disease.

In consumptive cases, Dr. Simmons observes, that the patient's taste should be consulted; and says that a moderate use of animal food, where the salted and high-seasoned kinds are avoided, is not to be denied. Shell-fish, particularly oysters, are useful, as well as snails swallowed whole, or boiled in milk.

Repeated bleedings, in small quantities, are considered in consumptive cases as highly advantageous: and in particular circumstances they undoubtedly are so; for instance, when the constitution apparently abounds with blood; when the fluid drawn off is extremely fizy; when there is much pain in the breast; and when venesection is followed by an abatement of every symptom. In these cases, bleeding is certainly proper, and ought to be repeated so long as it seems to be attended with advantage. In very delicate constitutions, however, even where the pulse is quick, with some degree of fulness, and the blood last drawn considerably fizy, it may not prove equally serviceable.

It deserves to be remarked, that the inflammatory appearance of the blood is not alone a sufficient reason for bleeding; but, in determining the propriety of this evacuation, all other circumstances should be considered; such as the patient's age, strength, habit, and the state of the disease.

A remark which has been judiciously made by Dr. Fothergill, ought not to be omitted in the account of this disease. It is, that

young delicate females, from the age of fifteen or sixteen, and upwards, are often subject to consumptions. When the disease has advanced considerably, the *menfes*, if they have made their appearance, most generally cease. This alarms their female friends, and they call upon the physician to use his utmost endeavours for restoring the discharge; believing the cessation of it to be the immediate cause of the phthisical complaint. Induced by their solicitations, medicines have sometimes been administered, which, without obtaining this end, have tended to aggravate the distemper. This deficiency is often of no real disadvantage in those cases; and in many the evacuation would prove injurious, by diminishing the strength which is already too much impaired. Even small bleedings at the regular periods have often done more harm than good. A sudden suppression may require bleeding; but when the evacuation fails through want of strength, and from poverty of blood, the renewal of it increases the disease.

Besides these remedies, Dr. Simmons strongly recommends a frequent repetition of vomits. Many physicians have supposed, that where there is any increased determination to the lungs, vomits do mischief: but Dr. Simmons is persuaded, that instead of augmenting they diminish this determination; and that much good may be expected from a prudent use of this remedy, than which none has a more general or powerful effect on the system. If any remedy be capable of dispersing a tubercle, he believes it to be vomits. The affections of the liver, that sometimes accompany pulmonary complaints, give way to repeated emetics sooner than to any other remedy. In several cases where the cough and the matter expectorated, the flushing heats, loss of appetite, and other symptoms, threatened the most fatal event; the complaints were greatly relieved, and in others wholly removed, by the frequent use of emetics. Other suitable remedies were indeed employed at the same time; but the relief the patients generally experienced after the emetic, was a sufficient proof of its salutary operation. By this, however, he does not mean that vomits will be useful in every period of the disease, or in every patient. In general, it will be found that the earlier in the disease emetics are had recourse to, the more likely they will be to do good, and the less likely to do harm. The cases in which emetics may be reckoned improper, are commonly those in which the disease is rapid in its progress; or in that stage of it when there is great debility, with profuse colliquative sweats.

In these cases, when an emetic has been administered twice a-week, and the cough is mitigated, the expectoration facilitated, and the other symptoms relieved, both the patient and the physician will be encouraged to proceed, and to repeat the vomit every second day, or even every day, for several days together, as

Dr. Simmons has sometimes done when the good effects of it were obvious.

The choice of emetics to be employed in these cases is by no means a matter of indifference. Carduus' tea, camomile tea, warm water, and others that act by their bulk, and by exciting nausea, relax the tone of the stomach when they are frequently repeated, and of course will be improper. More active emetics are therefore to be preferred; and here some of the preparations of antimony might naturally be thought of. But the operation of these is not confined to the stomach. They produce evacuations by stool, and a disposition to sweat; and are therefore improper in the pulmonary hectic. The mildness and excellence of ipecacuanha as an emetic, are well known; but in these cases, Dr. Simmons has often employed *vitriolated copper*, concerning the effects of which we meet with some groundless assertions in several medical books. Its operation is confined to the stomach; it acts almost instantaneously, and its astringency seems to obviate the relaxation that is commonly supposed to attend the frequent use of emetics. In two cases he experienced its good effects, after vomits of ipecacuanha had been given ineffectually. It should be administered in the morning, and in the following manner:

Let the patient first swallow about half a pint of water, and immediately afterwards the vitriol dissolved in a cupful of water. The dose of it must be adapted to the age and other circumstances of the patient, and may be varied from two grains to ten, fifteen, or twenty. As some persons are much more easily puked than others, it will be prudent to begin with a small dose: not that any dangerous effects will be produced by a large one, for the whole of the medicine is instantly rejected; but if the nausea be violent and of long continuance, the patient may perhaps be discouraged from repeating it. In general, the moment the emetic has reached the stomach it is thrown up again. The patient must then swallow another half pint of water, which is likewise speedily rejected; and this is commonly sufficient to remove the nausea.

Dr. Marryat, in his *New Practice of Physic*, prescribes with great freedom what he calls the *dry vomit*, from its being directed to be taken without drinking. This medicine consists of blue vitriol and tartarised antimony in the following proportions; and indeed its good effects have been ascertained by other practitioners in several instances:

(No. 195.) ℞ Cupri vitriolati in pulv. trit.

Antim. tartaris. sing. gr. iiss.

Optime misceantur et fiat pulv. emetic.

He directs it be given at night in a spoonful of water, and if qualms remain after its operation, a spoonful of warm brandy is

to be given to settle the stomach. It should be observed, however, of this medicine, that it is very apt to produce evacuation in the opposite direction; and may therefore be less fit than *vitriolated copper* alone, for the purpose here assigned it. Indeed, it is to be doubted, whether the same beneficial action, without the possibility of *deleterious* effects from the *mineral* employed, may not be produced by exhibiting a spoonful of Dr. Moseley's "*Vitriolic Solution*:"

(No. 196.) ℞ Zinci vitriolati drach. iij.
 Aluminis drach. j.
 Coccinell. contus. gran. vj.
 Aquæ bullientis lib. j.

Fiat solutio et cola.

This operates quickly; is followed by no debilitating nausea; and leaves the stomach braced and invigorated.

Another remedy which Dr. Simmons strongly recommends in consumptive cases, both from his own observation and on the authority also of many other eminent practitioners, is *myrrh*.

(No. 197.) ℞ Myrrh. in pulv. trit. gr. x. ad xxx.
 Mellis q. s. ut fiat Bolus, bis terve die fumendus.

If there be much inflammatory tendency, it may be combined with a proportion of nitre or of cream of tartar, which has often been serviceable in cases which were apparently instances of incipient phthisis even of the tuberculous kind. But when the disease is far advanced, or even decidedly marked, as far as our experience goes, it has rarely if ever been productive of any benefit.

Besides the use of internal remedies in pulmonary affections, physicians have often prescribed the steams of resinous and balsamic substances to be conveyed into the lungs. The vapour of *æthereal spirit of vitriol*, dropt into warm water, has likewise been used in these cases. The inhaling of fixed air has also been spoken of as an useful practice. Dr. Simmons has seen all of these methods tried at different times; but without being able to perceive any real advantages from them in the suppurative stage of the disease, where they might be expected to be of the greatest use; and in the beginning he has often found the two first to be too stimulating. He therefore preferred the simple vapour of warm water, and has experienced its excellent effects in several instances; but when the complaint has made any considerable progress, its utility is less obvious: and when the patients have been much weakened, he has seen it bring on profuse sweats, especially when used in bed, and therefore generally recommended it to be used in the day-time. Formerly he made use of a fumigating machine, described in the Gentleman's Magazine for 1748, in which the air inspired by the patient is made to pass through hot water

by means of a tube that communicates with the external air, and with the bottom of the vessel: but we have now a more elegant and (on account of the valve and mouth-piece) a more useful instrument of this kind, the *Inhaler*, invented by the ingenious Dr. Mudge.

Another remedy recommended by some as a specific in consumptions is the earth-bath. Van Swieten, in his Commentaries on Boerhaave, tells us, from the information of a person of credit, that in some parts of Spain they have a method of curing the phthisis pulmonalis by the use of this remedy; and he quotes the celebrated Solano de Luque in confirmation of this practice. Solano speaks of the *banos de tierra*, or earth-baths, as a very old and common remedy in Granada and some parts of Andalusia, in cases of hectic fever and consumption; and relates several instances of their good effects in his own practice. The method he adopted on these occasions was as follows: he chose a spot of ground on which no plants had been sown, and there he made a hole large and deep enough to admit the patient up to the chin. The interstices of the pit were then carefully filled up with the fresh mould, so that the earth might every where come in contact with the patient's body. In this situation the patient was suffered to remain till he began to shiver or felt himself uneasy; and during the whole process, Solano occasionally administered food or some cordial medicine. The patient was then taken out, and, after being wrapped in a linen cloth, was placed upon a mattress, and two hours afterwards his whole body was rubbed with an ointment, composed of the leaves of the *solanum nigrum* and hogs' lard. He observes, that a new pit must be made every time the operation is repeated; and advises the use of these baths only from the end of May to the end of October. Dr. Fouquet, an ingenious French physician, has tried this remedy in two cases. In one, a confirmed phthisis, he was unsuccessful; but the remedy had not a fair trial. The patient, a man thirty years of age, had been for several months afflicted with cough, hectic fever, and profuse colliquative sweats. He was first put into the earth in the month of June; but soon complained of an uneasy oppression at his stomach, and was removed at the end of seven minutes. The second time he was able to remain in it half an hour, and when taken out was treated in the way prescribed by Solano. In this manner the baths were repeated five times, and the patient was evidently relieved; but having conceived a dislike to the process, he refused to submit to any further trials, and died some months afterwards. In the second case he was more fortunate: the patient, a girl eleven years of age, had been for three months troubled with a cough brought on by the measles, which was at length attended with a purulent expectoration, hectic fever, and night-sweats. She began the use of the earth-bath in

August, and repeated it eight times in the space of twenty days. At the end of that time the fever and disposition to sweat had entirely ceased, and by the use of the common remedies, the patient was perfectly restored. A physician at Warsaw has likewise prescribed the earth-bath with good success in cases of hectic fever. The Spaniards confine it entirely to such cases; but in some other parts of the world we find a similar method employed as a remedy for other diseases, and particularly for the sea-scurvy. Dr. Priestley observes, that the Indians, he has been told, have a custom of burying their patients labouring under putrid diseases up to the chin in fresh mould, which is also known to take off the fetor from flesh-meat beginning to putrefy. The rancidity of a ham, for example, may be corrected by burying it for a few hours in the earth. The efficacy of this remedy in the sea-scurvy has, it is said, frequently been experienced by the crews of our East-India ships.

Solano, who is fond of philosophizing in his writings, is of opinion, that the earth applied in this way absorbs the morbid taint from the system: but does it not seem more probable, that the effluvia of the earth, by being absorbed and carried into the circulation, corrects the morbid state of the fluids, and thus are equally useful in the sea-scurvy and in the pulmonary hectic? That the earth, when moistened, does emit a grateful odour, is a fact generally known; and Baglivi, long ago, gave his testimony in favour of the grateful effects of the effluvia of fresh earth. He ascribes these good effects to the nitre it contains.

The earth-bath, both in consumptive cases and likewise in a variety of other affections, was some years ago extensively employed in Britain by Dr. Graham, a celebrated empiric. But, as far as we can learn, in most cases it produced to the patient a very distressing sensation of cold; in some, it seemed to be productive of bad effects, probably in consequence of this cold; and we have not heard of any consumptive cases in which good effects were decidedly obtained from it.

With regard to the drains, such as blisters, issues, and setons, that are so frequently recommended in pulmonary complaints, there is less danger of abuse from them than from the practice of venesection. The discharge they excite is not calculated to weaken the patient much; and the relief they have so often been found to afford, is a sufficient reason for giving them a trial. Blisters, as is well known, act in a twofold manner; by obviating spasm, and producing revulsion: issues and setons act chiefly in the latter of these two ways; and in this respect their effects, though less sudden and less powerful at first, are more durable from the continuance of the discharge they occasion. It is perhaps hardly necessary to remark, that, if much service is to be expected from either of these remedies, they should be applied

early in the disease. The ingenious Dr. Mudge, who experienced the good effects of a large scapulary issue in his own person, very properly observes, that the discharge in these cases ought to be considerable enough to be felt. But it is seldom possible for us to prevail on the delicate persons who are most frequently the victims of this disease, to submit to the application of a caustic between the shoulders. The discharge produced by a seton is by no means inconsiderable; and as in these cases there is generally some inflammatory stich, some part of the breast that is more painful or more affected by a deep inspiration than the rest, a seton in the side, as near as can be to the seat of the inflammation, will be an useful auxiliary. Dr. Simmons has seen it evidently of great use in several cases.

We have the following excellent cautions and remarks on some parts of the customary treatment of phthisis pulmonalis, by Dr. Percival:

“Whenever *bleeding* is thought expedient in delicate and debilitated subjects,” says the doctor, “which it is too often *supposed* to be in cases of pulmonary consumption, if great timidity prevail, it ought to be deemed a sufficient contra-indication. I have seen a rigor of several hours’ continuance, and extreme prostration of strength, succeed the loss of only two ounces of blood, in a lady who dreaded the lancet; though she affected to submit to it with magnanimity. Indeed this very effort might contribute to the injury, by being too great for her feeble frame of mind and body. The like observation may be applied to the use of voyages in this malady. Such a mean of cure should only be recommended when there can be full confidence that the patient is equal to the fatigues, and not disposed to be affected by the terrors of it*. On the same grounds of reason and humanity, long and painful journeys to Bristol, Matlock, and other places of resort, are to be adopted with caution. Change of air and of place is often useful in this complaint; and I have generally observed it to be most successful when the *medicina mentis* has been the principal object of it. There is a languor, an impatience, and irritability, attendant on such invalids, which is

* Alluding to Dr. Carmichael Smyth’s opinion, that the sea air is *prejudicial* to the hectic and consumptive, and even to those who have any tendency to such complaints, Dr. Percival says, “In some instances my experience has been consonant; in others, contradictory to this observation. The truth is, phthisis pulmonalis attacks *very different constitutions*, and originates from *different causes*. When labouring under a dyspnoea, many years ago, the consequence of an hæmoptoe, I went to Scarborough for the benefit of the sea air. Riding on the beach always irritated my lungs, and increased the difficulty of breathing. I could sensibly perceive the acrimony of the vapours which I inspired; but on the hills near Scarborough, and on any situation where the peculiar odour of the shore was not perceptible, I felt refreshment from every breeze which blew from the ocean.”

wonderfully alleviated by the charms of variety, and the soothing influence of rural scenery. When a journey therefore is directed, the patient should make frequent stops, and rest several days at once, in such salubrious situations as furnish comfortable accommodation, and pleasing views of nature. A plan like this, is perfectly compatible with that gentle moderate regimen of diet and of physic, which experience instructs us to be most appropriate to the several stages of the phthisis pulmonalis. The extreme antiphlogistic method of treatment I have often observed to aggravate the sufferings of the patient, and to accelerate his death. In this malady inflammation is, perhaps, only an occasional concomitant; for the tubercles in the cellular substance of the lungs are found to be of a whitish colour and cartilaginous hardness, and to remain solid till they attain a certain size. Matter then begins to be formed in their centre. As they grow larger, suppuration advances till they are converted into vomicæ; but these retain their white colour and hard texture, and no blood-vessels are to be seen upon them, even when examined by a microscope, after injecting the lungs from the pulmonary artery and vein*. The ingenious physician, to whom we are indebted for so interesting an investigation, hath, however, informed us, that tubercles, when of a certain bulk, and vomicæ also, render the portion of the lungs contiguous to them red, sometimes hard, impervious to air, and consequently unfit for respiration. In the state described, local inflammation certainly subsists; yet from long and extensive experience I have found that it does not often manifest itself in the humid climate of Lancashire, by such paroxysms of genuine peripneumonic fever as require venæsection, or the more active refrigerant medicines. The degree of hectic heat is a fallacious criterion of the propriety of blood-letting; and I have observed it to be generally augmented by that evacuation, when the patient is of a strumous habit; when the hair falls off, the nails grow rapidly, and a considerable wasting of the flesh and strength prevails. Under such circumstances also I have felt painful disappointments in the use of nitre; the effects of which, as a febrifuge, can only be ascertained by those who have had opportunities of attending to its subsequent, as well as immediate operation. A youth in my family, some time ago, had all the symptoms of a true hectic; and as I then entertained a favourable opinion of this remedy, I repeatedly administered it to him in the dose of fifteen grains. The pulse was usually reduced by it from 110 to 90 strokes in a minute, for the space of about a quarter of an hour; that is, whilst the stomach remained sensible to the sedative powers of the salt. But a re-action soon

* For these the author refers to the extracts from Dr. Stark's manuscript, *Medical Communications*, vol. i. p. 390.

succeeded in the system, and the pulse was frequently quickened to 130 vibrations, continuing in the accelerated much longer than in the retarded state; and always suffering a permanent diminution of strength. In cases of this kind, certain medicines of the tonic class prove eventually antiphlogistic. A young lady, aged sixteen, nearly related to me, was in the spring of 1785 affected with pulmonic complaints, which threatened a phthisis. As they were accompanied with great languor and debility, I gave her a solution of twelve grains of myrrh, every six hours, in a saline effervescing draught; marking the effect on the pulse with anxious attention.—I shall transcribe from my notes only the first observation which I made, because each subsequent one was similar in result. April the 20th, half past seven o'clock in the evening, pulse 120, feeble; the draught administered. Ten minutes before eight, pulse 98, stronger and fuller; half past eight, pulse 100. By perseverance in the use of this remedy, and other auxiliary means, the young lady happily recovered her health and strength. Camphor has been justly recommended in the phthisis pulmonalis; but should be given in such small doses as not to offend the stomach. It combines perfectly with myrrh; and, notwithstanding its supposed heating quality, perhaps acts rather as a sedative than a stimulant on the arterial system; as seems to be evinced by the following curious fact, communicated to me by my late friend Dr. Dobson. 'In June, 1780, three drachms of camphor were administered to a maniacal patient, in doses of one scruple, within the space of twenty-four hours. The pulse was reduced from eighty to seventy strokes in a minute; and the mania was mitigated. The succeeding day, the same quantity was given in twelve hours. Profuse sweatings and great itching ensued; the pulse sunk to fifty-five; and the mania was cured.' In the treatment of pulmonic disorders, particular attention should always be paid to the reciprocal sympathy which subsists between the stomach, the lungs, and the heart. Whatever occasions an agreeable sensation in the organs of digestion, and at the same time gives a gentle degree of tone to them, will tend to abate the velocity of the pulse, and to check the violence and frequency of coughing. Porter, on these accounts, often proves a grateful and salutary beverage; and affords peculiar support and refreshment under colliquative sweats*: but we cannot, from the sensible qualities alone of the substances to be administered, ascertain their operation on this delicate organ, liable perhaps, in such affections, to peculiar and anomalous

* Dr. Percival recommends as a remedy for the *colliquative sweats* in phthisis pulmonalis, the use of a calico waistcoat, or shirt, which has been steeped in a strong decoction of cinchona. It should be well dried, and renewed daily.

feelings. Indeed the action of most medicines on the human body, is rather relative than absolute; and cooling or heating, sedative or stimulant, are in many instances convertible powers when applied to different maladies, or to diversified states of the nervous system. A gentleman of rank in this county, was supposed to be in an advanced stage of what is termed a galloping consumption, having an incessant cough, an expectoration apparently purulent, continued heats, and night sweats; yet his cure was accomplished by giving wine-whey copiously, and by administering large doses of salt of hartshorn with spermaceti. A very low regimen had been directed by his physicians. The cordial plan was adopted by degrees, and with a cautious observance of its effects; which happily proved to be a progressive abatement of the fever, cough, and spitting, a gentle fit of the gout, to which the patient had formerly been subject, and the perfect re-establishment of his health.

“ In a curious fact, recorded by Dr. Mead, there appears to have been an interchangeable relation between lunacy and the phthisis pulmonalis; the latter being cured by the accession of the former malady, and recurring as soon as the brain was restored to its natural functions. The following interesting fact has occurred in my practice. Mr. C—’s daughter, aged nine years, after labouring under the symptoms of phthisis pulmonalis four months, was affected with unusual pains in her head. These rapidly increased to such a degree as to occasion frequent screamings. The cough, which had before been extremely violent, and was attended with stitches in the breast, now abated; and in a few days ceased almost entirely. The pupils of the eyes became dilated; a strabismus ensued; and in about a week, death put a period to her agonies. Whether this affection of the head arose from the effusion of water or of blood, is uncertain; but its influence on the state of the lungs is worthy of notice. I have received authentic information of a state of fatuity subsisting from infancy, and nearly approaching to idiotism, that, after thirty-four years, terminated in a consumption of the lungs; towards the fatal close of which the patient displayed a degree of intellectual vigour, astonishing to her family and friends, and not less so to a learned and judicious clergyman who visited her officially, and who communicated this account to me. Indeed, in a true hectic fever, the mental powers are generally in a state of improvement; and it is the lively perception of it which probably excites those emotions of hope that afford such seasonable support and consolation to the sufferer. Whereas imbecility of mind, when not accompanied with torpor, is always characterised by dejection and despair.

“ The pathology of the pulmonary consumption is not yet

ascertained, as will appear from a review of the discordant opinions of numberless writers, from the time of Hippocrates to the present period. The following propositions may, perhaps, lead to a more successful investigation of this interesting subject.

"Consumption, when it originates from what is termed a severe cold, is generally preceded by a catarrhal inflammation and fever. This fever subsides, but the cough continues; tubercles are formed; and a different species of fever, or the true hectic, takes place.

"The progress to this second stage is frequently so slow and gradual, as not to be much noticed; yet the hectic symptoms, when they occur, are more violent; the prostration of strength, marasmus, colliquative sweats, and diarrhoea, advance with greater rapidity, and terminate sooner in death. In such cases the patients are generally of a strumous habit.

"Tubercles and vomicae probably constitute the characteristics of the disorder in every form; and in their action they seem to bear some slight analogy to the ulcers, or gangrene of the throat, in the angina maligna. They produce a contamination of the parts which are contiguous to them; excite inflammation in the lungs, and a local disposition to sphacelus; generate a purulent matter, often of an acrimonious quality; and destroy the vital energy by a fever of a peculiar type."

We have thus far trodden the beaten path of physicians in detailing the causes, symptoms, and cure of this fatal and frequent disease; we shall not, however, have acquitted ourselves of what is due to the medical reader, if we do not advert to two new remedies which are under trial in the treatment of phthisis, and which have made considerable noise in the world, namely, the use of the *digitalis purpurea*, and the respiration of a *medicated atmosphere*. We shall give the testimony of the latest writers on these subjects under the separate head of

3. *New remedies in Phthisis.*] Innumerable and contradictory have been the observations on the effects of the *digitalis purpurea*, in the cure of phthisis pulmonalis, by different physicians; and a minute detail of what has been written would be tiresome, and even disgusting; we shall therefore select, as the most impartial statement, Dr. Magennis's paper, published in No. xxv. of the Medical and Physical Journal.

"The public attention has been fixed with a considerable degree of anxiety for the last two years, on the various contradictory accounts, published at different times, respecting the effects of the *digitalis* as a successful remedy in the cure of pulmonary consumption. Like every new and valuable discovery that has been made and applied to the removal of one or more of the afflicting catalogue of diseases to which the human frame

is subject, the fox-glove has experienced the most unbounded praises, and the keenest censure. The advocates for the use of this medicine, as is usual with all new discoveries, have extolled its virtues probably beyond the just bounds of truth, and what will not be found warranted by a more general and extensive experience. On the other hand, its enemies have not only denied its possessing any antiphthifical powers whatever, but have absolutely condemned it as a dangerous and *deleterious* drug, which ought to be altogether excluded from medical practice, and ranked only in the class of the most deadly vegetable poisons. The truth is most commonly found *to lie between these extremes*; and in no instance, perhaps, is this general rule more applicable than in the present.

“ It is the duty of every medical man, to exert his utmost abilities in endeavours to oppose barriers to the wasteful voids occasioned so frequently in families and society by the fatal effects of pulmonary consumption; and he who devotes his leisure and talents successfully, in pursuit of means to check the career of this desolating scourge, must deserve well of his country and humanity.

“ During the time I had the charge and superintendence of the hospitals at Norman Cross, I had occasion to try the effects of the digitalis on consumptive patients; and from the fortunate termination of Stroed’s case [related at large in the Med. and Phys. Journal], I was extremely desirous of employing it still more extensively; opportunities were not long wanting. On the 22d of Dec. 1799, the French government, in violation of its former engagements, thought proper to decline victualling the prisoners any longer in England. In consequence of this dishonourable step, I had orders from the commissioners of sick and wounded seamen, to take charge of the French sick as heretofore. I found in the wards, recently under the management of the republican surgeons, eight patients, who had been in the hospital from four to seven months and upwards, all deeply affected by phthisis. Six were in its last and most confirmed stage, and two in the second, supposing three stages an accurate division of the disease: four out of the six were in so deplorable a state, that under any system of treatment their cases appeared quite desperate and hopeless. Thus circumstanced, they began the use of the fox-glove in the form of tincture, which was gradually exhibited, and continued for three weeks. At the end of this time they were so much amended, that I began to entertain the pleasing and consoling hope, my endeavours would ultimately be crowned with success. The expectoration diminished to nearly one half; the cough considerably abated; the nightly perspirations, except in one, wholly disappeared; the pulse, in all of them, had gradually fallen from 100 and 110, to between 50 and

65; and the harassing pains about the thorax and its vicinity were very generally relieved: but, alas! these encouraging appearances were of short duration, and continued only a few days longer. The weather, which had been mild, and extremely favourable for the season, suddenly changed to cold fleet and frost, with a north-east wind, which, from the exposed site of the prison, its proximity to a large lake of water, and a marshy country lying east of it, blows here uncommonly keen. The consequence of these alterations was, that fresh excitement took place; the cough, expectoration, and all the other symptoms, became highly aggravated; and after a long and severe struggle, five out of the eight fell a sacrifice to the malignity of the disease; two permanently recovered, and one was very much relieved, but being sent to France, I have had no opportunity of learning the issue of the contest. Justice obliges me to acknowledge, that the two who completely recovered were less affected than the others, though their expectoration was evidently purulent. From the extraordinary amendment which occurred in the commencement of their treatment, I am strongly inclined to believe, that had the weather preserved the same degree of temperature one month longer, three at least out of the five, if not the whole, would have been probably restored to health.

“ Shortly after this period I was removed to the Royal Hospital at Plymouth, a situation which affords to medical industry a wider range, and more extensive field for observation, in the prosecution of a subject so interesting to humanity; a situation in which the powers, properties, and general effects of the fox-glove on the animal economy may be ascertained to a degree of exactness and precision, nearly approaching to mathematical certainty, if practical experience in variety and number of cases, in every stage of the disease, is to form the criterion on which we are to ground a decisive opinion, taking at the same time into consideration various adventitious circumstances, as climate, or temperature of the atmosphere, former habits, and the peculiar idiosyncrasy of the different objects intended to be subjected to its powerful influence.

“ The number of patients sent to the naval hospital in the last ten months, and the mortality caused by this disease among the seamen and marines of his majesty's fleets, are truly alarming; a great portion of the men admitted during the above period actually laboured under phthisis, either in its incipient or most confirmed stage, but principally of the latter description.

“ Among the causes that have contributed to increase the number affected with this consuming malady may be mentioned as a principal, the continual and severe duty in which the Channel fleet has been employed for many months past, being seldom more

than a few days in port, and that only when absolute necessity compelled it, to victual and water.

“ Of the prodigious numbers received from the ships of war and marine barracks, labouring under phthisis pulmonalis in its incipient or confirmed stage, I have here selected seventy-two patients who were subjected to the powerful influence of the digitalis; but as the limits of the Medical and Physical Journal cannot possibly admit of a detailed statement of such a variety of unhappy cases, I shall give only the history of three or four of the most marked and decisive, in which the operation and good effects of the medicine were conspicuous. The remaining number, as well as those narrated more at large, I insert in a table, with the general results, as the most concise mode of exhibiting such an unwieldy body of evidence.

“ William White, aged about 28, a seaman belonging to his majesty's ship Gibraltar, was admitted on the 12th of August, 1800, in the last and most confirmed stage of phthisis pulmonalis. He had been ill for several months with cough continually increasing in severity, and which was now incessant; pain in both sides of the thorax, especially in the left, running along the cartilaginous extremities of the ribs; expectoration profuse of greenish pus, extremely fetid, now and then streaked with blood; heavy perspirations, with febrile exacerbations night and morning. He particularly complained of a throbbing pain seated between the seventh and eighth ribs; and the cutis covering this part, externally, was discoloured in a very curious manner, about the circumference of a crown-piece: the respiration oppressed and laborious; he could only lie on his back; and the pulse beat 108 strokes in a minute.

“ Under this accumulated state of disease and wretchedness, no very sanguine hopes could be entertained of his recovery; in short, I considered him as one out of the great many unfortunate objects, sent to the hospital to die in a few days. May I not ask here with propriety, why this man had been kept so long on board ship in such a deplorable state? He began the digitalis, however, this day, in doses of seven drops every four hours, in a sperma cæti mixture with tinct. opii camph. On the 13th, after a severe fit of coughing, he brought up half a pint of very offensive matter. Rept. Tinct. Digital. gt. l. 15th, Tinct. gt. lx. 16th, lxx. 17th and 18th, No alteration in his condition; the tincture increased by ten drops daily. 19th, Tinct. gt. c. slight nausea; expectoration copious; cough severe; allowed four or five glasses of wine daily; pulse 90. From the 20th to the 24th, the medicine regularly augmented in the proportion before mentioned. 25th, The expectoration not so abundant, with less fetor; tinct. gt. cl. pulse 78. 26th, Tinct. gt. clx. 27th, Tinct. gt. clxx. 28th, Tinct. gt. clxxx. 29th, Nausea, with

vomiting, occurred yesterday; diminished the tinct. to gt. cxxx. pulse 48, and irregular. 30th, Nausea almost removed; pulse 48, more steady. 31st, Pain and oppression about the præcordia; App. empl. canthar. scrob. cord. Nausea and sickness entirely gone; expectoration visibly diminishing; pulse 52; tinct. gt. cxl. Sept. 1st, Tinct. gt. cl. The 2d, 3d, 4th, and 5th, the tinct. regularly increased. 6th, Tinct. gt. clxxx. Nausea, vertigo, with an intermittent pulse at 46. 7th, Nausea and dizziness continue, but the cough greatly abated; the expectoration reduced to half the original quantity; the greenish hue removed; the tetter gone; scarcely any perspirations for the last three nights. 8th, Tinct. gt. cc. 9th, Nausea in the morning; pulse irregular, and intermitted for several days. 10th, Tinct. gt. ccxx. 11th, 12th, and 13th, Nausea, with slight vomitings, prevented an augmentation of the tincture during the last three days; pulse from 44 to 50, irregular; expectoration astonishingly diminished, and every other symptom much abated. 14th, Nausea and vertigo gone; tinct. gt. ccxxx. 16th, Scarcely any cough now remaining. 17th, Tinct. gt. ccxxx. slight nausea; pulse 48. 18th, Tinct. gt. ccxl. 19th, Tinct. ccl. expectoration reduced to a table-spoonful. 22d, Hardly a vestige of disease remained; every part of the thorax completely freed from pain; even his strength was much augmented. As the disease removed, he could bear larger doses of the medicine, which was still continued. 25th, With a pulse at 56, he was as free from complaint as at any one period of his life, bodily strength alone excepted: the digitalis still persevered in and augmented. On the 29th of Sept. he was discharged the hospital, perfectly restored to health. A few days after his reception, he was invalided as a hectic patient, there being little hope at the time of his ever leaving the ward in a living state. Of this, the man was himself so sensible, that he has since written a letter, acknowledging his obligations in the strongest terms of gratitude.

“ James Smith, aged 26, a seaman belonging to his majesty’s ship *Ville de Paris*, admitted on the 6th of October last. Has been ill a long time with phthisis; he was affected with every symptom which is the usual concomitant of the disease in its last and most aggravated stage; constant and deep-seated pain in both sides, but more particularly in the left; expectoration profuse, and rankly purulent, emitting a most disagreeable fetor; regular attacks of febrile exacerbations every evening; profuse colliquative sweats; formerly subject to frequent hæmorrhages from the lungs, but nothing of that kind had occurred lately: he was reduced to the lowest state of debility, although twelve months before of Herculean powers, as one of his mess-mates informed me. The moment I saw this man, I pronounced it a lost case; notwithstanding these unfavourable appearances, he

began the tinct. digital. in small doses, which were gradually increased, and systematically persevered in till the 21st of Nov. on which day he was discharged, cured. The expectoration, originally a pint and a half, was reduced to about a table-spoonful or less, and wholly free from purulence; the nightly perspirations had ceased upwards of twelve days; the thorax was completely freed from pain; and the cough had for some days totally disappeared, except for a few minutes after his first getting out of bed in the morning. I wished much to put him on a course of chalybeate tonics before his discharge; but having been previously invalided, he became extremely anxious to see his friends in Ireland, and still more so, fearing that an alteration in the weather might give him fresh cold in travelling, should the frost set in before his departure. He was confined to his bed near three weeks whilst under the influence of the medicine, in such an extreme state of insensibility all the time, that at first he could only get out to the night-chair with the assistance of a nurse. The pulse gradually fell from 110 to 60, but never lower; and for a long time the tincture could not be pushed beyond 100 drops in the day. I was twice under the necessity of reducing the daily quantity to fifty drops; but as the cure advanced, and his strength increased, he could bear larger doses; for ten days previous to his dismissal, he took to the amount of 160 drops, 2-a-day; beyond that, the medicine disordered the head and stomach.

“ Mr. William Campbell, of his majesty's ship *Barfleur*, 23 years of age, was admitted on the 27th July, 1800, labouring under phthisis. He was greatly emaciated, expectorated confirmed pus, had a fixed pain of the side, a deep hollow cough, febrile exacerbations, profuse nightly perspirations, a pearly whiteness of the eyes, great thirst, oppressed and difficult respiration, head-ach, and a pulse above 100 in a minute. On this day he began the use of the digitalis, which was by degrees increased till the daily quantity amounted to 160 drops; this was the utmost extent to which the tincture could be pushed, without disordering the head and stomach. The pulse gradually sunk, the cough and expectoration at length wholly disappeared, every other hectic symptom by degrees vanished, and on the 7th of September he was discharged, completely restored to health.

“ James Herritage, seaman, 29 years of age, was admitted for the second time into the hospital on the 14th August, 1800. He had long been subject to severe pain of the breast, incessant cough, purulent expectoration, sometimes mixed with blood, much emaciation, loss of appetite, febrile rigors attended with colliquative and profuse sweats at night, with a pulse at 108. The digitalis was, as usual, exhibited in small doses, which were

systematically increased by ten drops a-day, until towards the termination of his cure he could bear the astonishing dose of 100 drops three times a-day. I repeatedly and personally exhibited the medicine myself. He was surveyed, and would have been invalided; but at my request was permitted to remain, as I then judged him fast advancing towards a perfect cure, in which I happily succeeded. The pulse gradually sunk to sixty pulsations in a minute, but never fell lower, notwithstanding the enormous doses which he took of the medicine. He was discharged to duty on the 29th September, forty-three days after his reception.

“ James Wallace, a seaman, was received into the hospital on the 14th September last. He had at this time been two years and upwards subject to cough; he now complained of a deep-seated pain in the right side, and about the scrob. cord. expectorated a thin sanious and purulent matter, emitting a most intolerable stench; the fetor of his breath was so extremely offensive, that I was constantly obliged to turn my head aside when examining into the state of his pulse; and the nurses were often affected by nausea and sickness when in the act of assisting him with drink, &c.: a laborious and oppressed respiration; but he had neither rigors nor night sweats, except in a very trifling degree. The pulse fell by regular gradation from 104 to 46, and continued in this extraordinary state of depression for five weeks, never ascending higher than 54 all the time: he could never go beyond 100 drops of the tincture in twenty-four hours, and yet this quantity was sufficient to bring down and keep the pulse at the extreme reduction above mentioned.

“ He was discharged cured on the 28th of November, 1800. As I had not the most distant hope of this man's recovery, considering him in a cadaverous or semi-putrescent state at the commencement, he was submitted to survey, and accordingly invalided.

“ In this great variety of cases, the medicine was frequently given under my own immediate inspection, or that of my assistants, especially when the doses amounted to what is deemed very large, in order to be certain that we were not deceived by the patients. Many were in the habit of taking from 150 to 300 drops in the day, first commencing with twenty, thirty, forty, or fifty drops, regulating the quantity according to the apparent strength and vigour of the patient; and increasing the number daily by ten drops, till the stomach began to shew slight symptoms of anorexia, or the patient complained of dizziness and imperfect vision, accompanied with a considerable reduction of the pulse. Whenever one or more of these symptoms occur, the doses are immediately reduced, either one half or the quantity originally commenced with; but if the head and stomach

should still be unable to bear these reduced doses, from the irritation previously induced, a circumstance, however, to be sedulously guarded against, the medicine is then wholly omitted for one, two, or three days, after which it is again exhibited as at the first onset.

“ The vehicle in which I usually administer this medicine is, a mixture of *sper. ceti. tinct. op. cam. et ox. scil.* from two to three table-spoonful, to be taken every four or six hours; so that the quantity with which the patient generally commences, is from seven to ten drops at a dose. It is sometimes exhibited in decoct. *cinch. c. elix. vit. et tinct. cinch.* and the formula varied according to the particular urgency of symptoms. The patient is usually permitted to take a few glasses of wine daily, and sometimes to the quantity of a pint, when colliquative sweats and great debility render it necessary.

“ By these means, and by these precautions, I have been able to exhibit it to the great extent already specified.

“ In comparing these quantities with the doses administered by several of your correspondents in private practice, I have been much struck with the great and material difference between us, as those gentlemen were seldom able to go beyond 90 or 110 drops; and that in few instances. To what can we impute the cause of these contrarieties of results? Either it must arise from the inferior powers of the plant of which the tincture is here made; from the imagination of a certain description of patients; from the few opportunities occurring in private practice of trying the digitalis on a variety of constitutions; or from a combination of some or all these circumstances. With respect to the first, Mr. Hammick, the dispenser of the hospital, informs me that the fox-glove of which the tincture is made, is commonly procured from the Hall, and the proportions are 1 oz. gross powder, to 4 oz. of proof spirit. 2dly. Private patients being in some measure acquainted with the active properties of the medicine, and seeing it dropt with great caution, expect from it certain effects, with which the imagination is fully impressed. And lastly, many constitutions will hardly bear the smallest doses, without exciting very general tumult in the system. I have now several under my care that cannot go beyond 70 drops a-day, and two who are not able to bear 40 drops at a dose.

“ Mr. Fuge, first surgeon to the hospital, having directed his attention to this subject, and in order to ensure greater accuracy, was at the trouble of collecting the plant himself, and of making the tincture, in the proportion of four ounces of fresh gathered leaves to five of proof spirit: of this tincture he had the politeness to send me eight ounces; and I found on trial, that ten drops of it were equal to nearly fifteen of what I was then in the habit of prescribing. This circumstance demonstrates fully the absolute

necessity of a standard and fixed formula from authority, to regulate general practice by; and likewise the necessity of great caution in the exhibition of this valuable medicine, before the strength of the tincture is accurately ascertained.

"The effects of the digitalis on *different constitutions*, is strongly exemplified in two patients now under my care: in one, the medicine cannot be pushed to forty drops a-day, without inducing nausea, vertigo, and very general derangement of the system; the other, Robert Skinner, has taken one hundred drops three times a-day, without producing the smallest uneasiness whatever, not even intermission or irregularity of the pulse, an effect that very generally follows the use of this medicine when given in full doses. A considerable reduction of the pulse, however, took place, which the following morning was steady and regular at 60 pulsations in a minute; the medicine being wholly omitted the following day, the pulse rose to 76. I have met with several instances in which the digitalis, given freely and largely, effected not the smallest reduction in the pulse; and in these, the patients uniformly derived no advantage whatever from its use. I shall briefly subjoin two cases to illustrate this point; one occurred at Norman Cross, the other at the Royal hospital.

"Henry Velcamp, a Dutch prisoner of war, but a Frenchman by birth, was admitted into the hospital repeatedly during the last ten months, generally for the cure of pleuritic affections.—Some time before the 25th of October, 1799, he complained of pain in the left side, as he had indeed often done before, severe cough, copious expectoration though not purulent, difficult respiration; with a somewhat hard pulse and a constipated state of the bowels. He was immediately prescribed a saline cathartic, a large blister to the part affected, and a mixture of sperm. ceti aq. am. acet. et sal. nitr. This plan was persevered in till the 30th, with little or no amendment. On this day ordered tinct. digit. gt. xv. bis die, in two ounces of the above mixture.—Nov. 1, tinct. gt. xv. ter die. 2d; Tinct. gt. xx. ter die. The tincture was regularly increased by five drops a dose, till he took 165 drops daily. On the 9th I was quite astonished that no alteration followed with respect to the head, stomach, or in the number of pulsations, being never fewer from the commencement than 100 to 110. Anxious to examine the condition of the blood, I directed three ounces to be taken away; but notwithstanding the rapidity of the circulation, and the apparent wiriness of the pulse, the blood shewed no signs of inflammation. The tincture was continued till the 12th, on which day he took 210 drops, that is, 70 drops three times a-day; but finding no alteration in the pulse, or general state of the patient for the better, on the contrary he was daily getting worse, the digitalis was discontinued altogether. He lived only six days longer, notwithstanding the application of other remedies, and fell a victim to the disorder on

the 18th of November. From the unusual symptoms attending this case throughout, and the failure of the digitalis in abating the force of the vascular system, I was very desirous of examining into the state of the viscera. The body was accordingly opened by my head assistant, Mr. Woodham. The liver was found much enlarged, with the appearance of an incipient gangrene along its extreme edge; the gall bladder was nearly empty, containing only a small quantity of a dark viscid bile; the lungs were full of tubercles, though few in a state of suppuration; no adhesions of the pleura had taken place, and all the other viscera were perfectly found.

“ Benjamin Eve, a seaman, belonging to his Majesty's ship *Superb*, a young man about twenty-two years of age, was admitted on the 26th September last, labouring under phthisis, his countenance strongly indicating the nature of his disease. He was subject to nightly sweats, attended with hectic rigors morning and evening, copious expectoration of bloody pus, and constant cough. He had been subject to frequent hæmorrhages from the lungs for some months previous to his admission, and although not so frequent now, yet they sometimes did occur. He began the digitalis on the 27th, which was regularly continued and gradually increased till the daily quantity amounted to 230 drops; this was on the 42d day from its commencement. During all the time, it neither abated the force or reduced the frequency of the pulse, which was never under 100, but most commonly at 110 to 120; nor did the disease receive the smallest apparent check in its career. He was about this time invalided and discharged at his own request, soon probably to fall a victim to this horrible malady. Here is a case in which the digitalis entirely failed, where it had a fair trial. I might adduce others, to prove that the effects of this medicine will be various and diversified on different constitutions.

“ I have never perceived in any one instance the smallest tendency in the medicine to act on the kidneys, even when given in the largest doses; and this is the more extraordinary, as it was first introduced to the public notice under the character of a powerful remedy in the cure of dropsy. The digitalis not only failed on all occasions of having any diuretic effect; but what is still more to be wondered at is, that it actually produced, and has been the cause of the very disease in question; an effect which might naturally be supposed to arise from it in reasoning theoretically on the properties of this plant, from its sedative operation on the force and vigour of the vascular system. This is a consequence which I say might naturally be deduced from theory, and which will now be seen confirmed by the following facts. It is therefore necessary to point out to the inexperienced practitioner, the

possibility of such an occurrence, that in his endeavours to remove one disease, he may not substitute another equally fatal.

"Two instances have lately occurred in the course of my practice at the Royal Hospital, which confirm the justness of the above observations; but that I may not swell this article beyond all moderate bounds, I subjoin one case only. David Johnston, a young lad, about seventeen years of age, the son of one of the nurses, had long complained of severe cough, oppressed and difficult respiration; his expectoration was now purulent, his eyes of a pearly whiteness, which is often a sure indication of confirmed phthisis; he was much emaciated in consequence of nightly sweats, attended with regular febrile exacerbations, and a pulse above 100 in a minute. In short, this lad was so ill, that I expressed my opinion to Mr. Peters, physical assistant, that it was probably a lost case. The tincture was however exhibited in reduced doses, which were gradually increased and regularly continued till the end of September, having commenced about the close of the previous month; and to my very great surprise all the hectic symptoms were by this time entirely removed; a very extraordinary and rapid cure in a case of phthisis so strongly marked. The medicine was still continued, but in a few days his lower extremities began to swell, which rapidly extended to the trunk, and presently after he was universally anasarcaous with evident fluctuation in the cavity of the abdomen. The digitalis was now wholly omitted, and the patient ordered the chalybeate diuretic mixture, the good effects of which I had already so happily experienced in the cure of dropsy; and it proved equally successful in the case at present under consideration. In fourteen days the lad was completely restored to health, which still continues up to this moment.

"This is a case, which, when considered with attention, and duly reflected on, must throw great light on the nature, properties, and *modus operandi* of the fox-glove. It gradually and silently sunk the vigour, and abated the force of the whole system, but most conspicuously so that of the vascular; the pulse fell in a few days from 100 in a minute to under fifty, and was retained in this state of depression, till every symptom of phthisis had wholly disappeared; this being a disease having principally for basis irritation, and a preternaturally increased velocity of the circulation, ultimately inducing particular local affection, which, by constant attrition, exhausts the sensorial power and wears down the constitution. The morbid catenation of associated symptoms once destroyed, or, in other words, the overplus of preternatural action in the minute and secretory vessels of the lungs once reduced to the healthy standard, the system still continuing under the powerful influence and sedative effects of the medicine, a disease of di-

minished excitement, the reverse of the former, is super-induced; that is, dropsy became the consequence, which in its turn yielded to the stimulus and invigorating powers of steel combined with diuretics.

“ In maturely weighing all the facts and circumstances here adduced, I am inclined to impute the salutary influence exerted by the digitalis over phthisis, to its widely diffusing property of diminishing morbid excitement throughout the animal economy; and not to any particular specific power it possesses of promoting absorption either general or local, which is supposed to be its *modus operandi* in the cure of dropsy and phthisis. For it appears contrary to analogical reasoning drawn from the known laws of the animal economy, that a medicine which so forcibly retards the motion of the heart and arteries, should at the same time increase that of the absorbent system; a consequence that must necessarily arise, in order to remove fluids deposited in the different cells and cavities of the body.

“ It is not, then, the rapid absorption of secreted and aerated pus from the surface of diseased parts, on which the cure of phthisis depends, but on the diminution and total extinction of morbid increased action in the extremities of the pulmonic vessels; thereby cutting off the sole source and cause of secretion; which, when once effected, the disease ceases to exist. This opinion is still farther corroborated, when it is recollected, that in all those cases wherein the tincture failed of effecting a reduction of the pulse, no amendment followed its use.

“ To administer the digitalis under every favourable circumstance, and to render its success the more certain, it is of the utmost importance to attend carefully to the state of the atmosphere; frequent changes and sudden transitions of temperature are sedulously to be guarded against: the practitioner who loses sight of this consideration, or thinks lightly of it, will be generally foiled in his efforts to cure phthisis pulmonalis, even when assisted by the powerful effects of the fox-glove. A state of weather which commands a range of the thermometer, lying between 55 and 65 degrees, is the best adapted to the successful treatment of hectic patients. Winter is, therefore, the most unfavourable season for those labouring under phthisis; and I am fully convinced, that many fall victims to the disease at this period of the year, that would most probably have recovered in summer. Beside the cases in point already adduced to support the truth of this assertion, I had two remarkable instances at the Royal Hospital. John Wilson, now no more, after using the digitalis for five weeks, was considerably better; but on the approach of winter, the weather alternating frequently with heat and cold, fresh excitement took place, and proved fatal to him. The other, Jameson, still living; but who, without the immediate interpolation of

Providence, must likewise die, was at one time so far recovered, that I considered his cure certain. He was admitted in the last stage of phthisis, and from a pint of pure matter, the expectoration diminished to about two table-spoonsful, and that not purulent. Change of temperature induced a relapse, and he is now on the verge of eternity. The tinct. digit. had in these two cases a complete trial, but failed.

“ I have chosen the annexed tabular form, as conveying at one luminous view the whole of the information which I have collected on this important question, from the opportunities afforded by my station at the Royal Hospital. By this, with what has been already published by other gentlemen, the public and the profession will be enabled to appreciate the real value, or at least make a much nearer approach in appreciating the real value, of this extraordinary medicine. They will perceive, that although it will cure phthisis in its most advanced and aggravated stage; yet, that it will fail in many instances of a similar nature, and that even when the disease is still in its incipient state. To promise and to expect more from this or any other medicine, in the treatment of general diseases, will, I fear, be holding out false lights to deceive inexperience, to wound truth, to injure and retard science.

“ It is of great consequence that the properties of this medicine should be accurately defined, as the cautious and timid practitioner, and those whose sphere of practice is limited to few opportunities of trying the effects of new and doubtful remedies, must wait the decision of this question with an impatience and solicitude proportioned to the weight and importance of the subject.

“ Upon the whole, it will be found a valuable addition to our stock of knowledge in Therapeutics, already under so many obligations to this age of improvement; but too often, of unhappy innovation.”

Dr. Magennis closes this account, to which we do not think it necessary to add, with a table containing the names of *seventy-two* persons affected with phthisis, who had taken the digitalis.—The results are the following :

•Twenty-five, in the *purulent* stage, recovered.
Fifteen, in the *incipient* stage, ditto.

Antony Francis, seaman,	Purulent.	Died. Used the digit. 21 days.
Luke Bunter, f.	Purulent.	Died. Used ditto 14 days.
Matthew Shires, f.	Purulent.	Died. Used ditto 15 days.
Daniel Ruse, f.	Purulent.	Died. Used ditto 17 days.
Benjamin Chapman, f.	Purulent.	Died. Used ditto 10 days.
James Bridon, f.	Purulent.	Died. Used ditto 19 days.

John Wilson, seaman.	Purulent.	Died. Used the digit. six weeks.
— Jameson, f.	Purulent.	At one time much better ; now dying.
Patrick M'Elwin, f.	Purulent.	Discharged much better. Since died in Ireland.
Andrew M'Tegart, f.	Purulent.	Discharged much relieved ; but incipient.
James Bradley, f.	Purulent.	Ditto much relieved, ditto.
James William, f. and nine others.	Purulent.	Ditto, ditto, ditto.
Benjamin Eve, f.	Purulent.	The digit, completely failed, altho' he took it six weeks.
George M'Nally.	Purulent.	Much relieved.
Robert Squire, f. and eight others.	Incipient.	Much relieved.

Whether the remedy in question may not be better adapted to the robust description of persons who fell under Dr. Magennis's observation, than to persons of greater delicacy and more restrained habits, appears to us a question worthy of consideration ; but these speculations are no part of our province, and we shall therefore proceed to detail some of the facts published in behalf of the *pneumatic treatment*.

Long before modern improvements in chemistry had strengthened the hands of the physician with that class of remedies which are next to engage our attention, it had been a favourite opinion, and a very natural one, that, in a disease of the *lungs*, medicated particles, set afloat in the common atmosphere, might be usefully employed as a mere *topical* remedy. Accordingly, change of air, the fumes of a brick-kiln, the effluvia of new-ploughed earth, the vapour of boiling tar, or of resins in a state of combustion, and even the supposed salutary breath of ruminating animals, were severally objects of attention to the consumptive. Chemical discoveries, however, have led to a far more important view of this subject, which has been cultivated on an extensive and spirited scale by Dr. Beddoes and Mr. Watt, to whose publications we are indebted for the following statements.

We shall begin with the following fact respecting hydrogen gas, employed by Mr. Rolph, in the inflammatory stage of a catarrh, which he says is supported by analogous cases in which sometimes unrespirable airs and sometimes æther-vapour have been employed.

Case I.—“ Friday, Feb. 19, 1796,” says the writer, “ I felt indisposed with slight symptoms of fever, accompanied with that particular sensation in the chest which I had been much accustomed to feel at the commencement of violent catarrh. In this

situation I dined with a medical friend, and imprudently drank more than a pint of wine. I passed a restless night, and in the morning all my symptoms were increased. The mucous membrane of the nose was greatly affected, and I began to cough frequently and painfully. I procured some *hydrogen gas, two quarts of which, diluted with twenty of common air*, I inhaled twice in the forenoon. Not finding relief, I determined to use *undiluted hydrogen*, as often as I felt a disposition to cough. I fitted a perforated cork provided with a stopper to a bladder of at least three gallons capacity. Having expired forcibly, I put the cork to my mouth and drew in the hydrogen, and then expired it into the bladder: this I did whenever I felt a disposition to cough, from which I restrained myself as much as possible. The next morning I felt myself considerably relieved. I had recourse again to the hydrogen, sometimes breathing into the bladder, and at other times slowly through the nostrils, to relieve the disagreeable sensation I experienced there. Monday I felt the disposition to cough very trifling, and Tuesday I had not the slightest remains.

“From what I have before experienced (and I have been extremely troubled with violent catarrhs), I am persuaded that the benefit arising from the use of *salutious air* in twelve hours is greater than that which would be obtained in a week from the usual mode of practice.”

The following case of pulmonary abscess is related by Mr. Dean, a practitioner in London.

Case II.—“Mr. Dorgan, married, having a family, aged 41, was with a party of friends at Deptford, Feb. 10, 1796, where he was induced rather to exceed in the quantity of liquor, and the evening turning out rainy, was wet through: the next day he was seized with shiverings, succeeded by flushings of heat; head-ach; violent pains in the right side; difficult breathing; dryness of the nostrils; and other marks of an incipient peripneumony: the symptoms were so violent as to oblige him to take to his bed. I was immediately sent for, and from the urgency of the case, I thought it right to call in the aid of a physician, Dr. —, who ordered him to be bled and blistered, as well as to pursue the antiphlogistic methods which are usually practised in this complaint. After fifteen days Mr. Dorgan was able to leave his bed; but the cough still continued with copious expectoration, which upon trial with water sunk to the bottom. We continued our attendance to the 24th of March, when, from the rapid progress of the disease, which had all the appearance of phthisis pulmonalis, we recommended the trial of the hydrogen, or hydrocarbonate, air.”

The following is a journal of the case:

“March 25.—Mr. Dorgan, living in Church-street, Bloomsbury, ætat. 41, was attacked with pneumonia, which terminated

by a diseased secretion, or abscess of the lungs, occasioning chill in the day, hectic fever at night, and profuse perspirations, more especially towards morning, great emaciation, and extreme debility; what he spit up sunk in water, and upon examination with a strong lens, it appeared filmy, and covered with small air-bubbles, and was of a clear straw colour. Feels uneasiness upon making a deep inspiration, complains of a dull pain at the sternum, a harassing cough, dimness of sight (perhaps from previous inflammation of that organ), thickness of hearing (probably also arising from the violent cold which was the foundation of the present disease), hoarseness, more especially towards night; has a tongue extremely white, edges rather florid, pulse 110, rather full and tense, appetite gone, spirits unusually depressed, but possesses great fortitude of mind. Mr. D. has the appearance of being formerly a very stout man, is near six feet high, his eyes are weak and blue, his complexion fair, his hair light, and he was before often subject to very severe colds. Ordered a large blister on the sternum, an aperient in divided doses, and the syrup of white poppies at night.

" March 27. No alteration. Ordered the aperient and syrup to be repeated, and a fleecy hosiery waistcoat to be procured as a substitute for the flannel. Inhaled a reduced atmosphere, viz. one quart of hydro-carbonate to forty of atmospheric air, had continual catchings of his breath as he inhaled it, his pulse which was 110, full, and strong, was rendered soft and feeble, and rather quickened. Felt some uneasiness at his breast at the time, a little faintness, vertigo, and sickness, which prevented him from inhaling the quantity prepared,

" March 29. Feels rather more debility, with acute shooting pains in the side. Ordered another blister and an aperient. Inhaled a reduced atmosphere, the same effect nearly as on the 27th.

" March 31. Free from pain in the side, but no otherwise amended. Ordered a Burgundy pitch plaster on the sternum of a large size, a tonic mixture of bark and myrrh, an emulsion of milk and oil of almonds made up with gum arabic and sugar, and the anodyne syrup at night. Inhaled a reduced atmosphere, the catchings were inconsiderable, it produced a soothing refreshment, and a sense of coldness at the time, which was succeeded by the mildest glow, and pulse ninety, soft and feeble, which increased to above a hundred soon after the inhalation.

" April 1. Is much mended; slept throughout the night; and what is expectorated is less filmy, and sinks with some difficulty. Ordered the same medicines, but instead of the tonic mixture at night an aperient, and the tonic to be resumed the next evening, and the following morning.

" April 3. Amendment visible. Repeated the medicines as on the 31st of March. The reduced atmosphere no longer produced nausea or vertigo, but a soothing tranquillity, and a diminution of pulse. No catchings of the breath, and the inspirations were deeper and easy.

" April 4, 5, 6, 7, 8. All the symptoms of disease are diminished. Pursued the same medicines as were ordered the 31st of March.

" April 9. The appetite is keen, feels his strength considerably increased, so that instead of an hour and a half, he walked here in little more than thirty minutes, the cough is less troublesome, what he expectorates is chiefly in the morning and evening, nights good, no pain, entertains the hope of a speedy recovery.

" April 10. Continues mending. Ordered an aperient, as on April 1. Continues to inhale a reduced atmosphere.

" April 12. Continues mending; before obliged to use a stick, now had left it behind, having no occasion for one. Upon examining the expectoration the greater part swam, and only after some agitation did some lumps sink in the water.

" April 13. Left off a great coat, feels to-day a violent stitch in the right side, cough increased, considerable hoarseness, tongue very white, pulse ninety, full, eyes heavy, strength diminished, much irritation at the breast. Ordered a blister, and an aperient to be taken in divided doses, the tonic mixture to be discontinued, and an aperient to be repeated again the next morning. Inhaled a reduced atmosphere, which occasioned violent catchings of the breath, as at first, and therefore it was persisted in only for a few minutes.

" April 15. Pain subsided, cough much abated, no hoarseness, complexion much improved, pulse 76, says 'he feels much better to-day than for a long while.' Ordered the tonic mixture to be resumed in increased force, and directed porter at his meals, and a more generous diet. Inhaled the reduced atmosphere with advantage.

" April 16, 17, 18, 19. Cough very moderate, the expectoration has ceased to have any unpleasant taste, and swims for the most part on the surface of the water. It has a browner cast, and appears blueish in the morning.

" April 20, 21, 22, 23, 24. Continues mending, seldom coughs, appetite extremely good, spirits elated, thinks he will be well in a few days. Ordered the opium to be left off, and less of the tonic mixture to be taken.

" April 25, 26, 27, 28, 29. Daily mends; never coughs but in the morning, and towards evening, and what he expectorates floats, is increased in bulk; nor has he need of the opium. Or,

ordered the bark and hydro-carbonate to be left off for a week, and the patient to go into the country.

" May 10. Mr. Dorgan returned, perfectly recovered.

" Sept. 1. Saw Mr. Dorgan, who has since continued in excellent health, and has no apprehension, or I trust, danger of his former complaint, the disorder being rather *adventitious* than natural to his constitution."

The two next cases of consumption were communicated by Dr. Thornton.

Case 3.—" Robert Scantlebury, married, aged 35, living at No. 33, Crown-street, Finsbury-square, has laboured under a disease of the chest nearly seven years. He imputes its origin to a violent cold, leaving behind a cough, which was very troublesome during the winter, and at first constantly disappeared in the summer months. For the last two years he has experienced no intermission. He spits up a great deal of a *something*, which, when put into a glass of water, appears white and flocculent, and soon subsides to the bottom, and when viewed by the microscope shews the appearance of a thin web replete with air-bubbles. He had seldom above two or three hours sleep, so troublesome was his cough. He had feverish heat towards evening, which diminished by sweating in the morning; a parched white tongue, with florid edges and spots; chilliness during the day; and a circumscribed red spot on the cheek-bone. He often complained of a dull pain under the sternum; hoarseness towards evening; and so much debility, that he was above two hours in getting to my house in Bennet-street, repeatedly taking hold of the rails of houses as he went along. His appetite was good, and what seemed rather unusual in his complaint, he had little or no expectation of recovery, which perhaps might arise from the continual good-nature of honest friends, who were constantly expressing their concern at his situation. He had taken a deal of medicine without benefit. The plan I pursued with him was emetics and cathartics to make the bark agree; syrup of white poppies at night to assuage the cough; and he inhaled the *hydro-carbonate in the proportion of one quart to forty of atmospheric*: he was ordered a fleecy hosiery waistcoat; and had a large Burgundy pitch plaster on the breast. The reduced atmosphere invariably produced a general sense of coldness and refreshment over the frame; and at first slight vertigo, and nausea, which soon disappeared, and ever after, he went away under the persuasion he was mended by the hydro-carbonate, and soon acquired the full confidence, that he should speedily recover; nor was this expectation fallacious; for his cough daily grew less incessant, his nights were seldom disturbed, he felt his strength so far increased, that he could walk here in half an hour; and what he spit up was bluish, or resembled clear mucus, which swam on

the surface of the water. He ceased to have exacerbations of heat and cold, with perspiration in the morning, and his friends universally noticed the surprising alteration in his looks. After five weeks he took his leave, without cough; increased in flesh; and seemingly perfectly recovered of his former complaint."

Case 4.—"Amy Chatfield, for several months has had hæmoptoe; her expectoration is now (April 9) streaked with blood, *sinks when immersed in water*, cough hard and frequent, tongue florid at the edges, countenance pallid, except when attacked with fever, which comes on towards evening, perspirations in the morning, emaciation, breathing oppressed, a tightness, like a rope, across the breast, so much debility that she was above an hour and a half in getting to my house in Bennet-street, leaning on the arm of a companion, and sitting down upon the stone steps of houses six or seven times in her way. Ordered the syrup of white poppies, and an aperient draught.

"April 12. Expectoration as before, sleep very disturbed, awakened with violent head-ach, and sickness of the stomach. Ordered an emetic and cathartic, and the opium to be omitted.

"April 14. Brought off a quantity of viscid mucus from the stomach, feels to-day lighter, and much mended. Expectoration as before. Ordered a fleecy hosiery waistcoat, a cathartic, and a mixture of bark, myrrh and steel, and the opiate to be resumed.

"April 16. Feels stronger, and only rested once in getting here, complains of a tightness across the breast, stitches in the side, much heat at night, giddiness and head-ach, disturbed sleep, and cough very hard. Pain when making a deep inspiration, and a catching of the breath. Ordered the tonic to be omitted, and directed a tonic aperient of rhubarb quassia and coriander seeds to be taken at night, the bark mixture without steel to be resumed the following day.

"April 18, Is much mended. The expectoration is less streaked, and appears now spotted with blood, and studded over with air-bubbles. Sinks in water. Ordered the tonic mixture to be repeated and the aperient each night.

"April 21. Walked here without leaning on her companion, and only sitting down once; slight stitches in the side: expectoration as before. Repeat the medicines of yesterday.

"April 22, 23, 24, 25. Continues mending; expectoration diminished, and rather less spotted with blood. Pains in the loins. Signs of menorrhœa, Omit, medicamenta.

"April 26, 27, 28. Menorrhœa, pale, copious, during which time she was unusually well; but the expectoration was much streaked with blood, and less studded.

"April 29. At nine in the evening was taken exceedingly ill; had violent head-achs, shiverings, flushes of heat, great pain

in the loins, shortness of breathing, drought, no appetite; passed a bad night.

" In getting here, May 1, was obliged to rest four or five times by the way, looked exceedingly ill; expectoration more streaked with blood, complains of some pain and rumbling in the bowels; ordered the tonic aperient, and the bark mixture after the bowels were cleansed.

" May 3. Sat down thrice in walking here: the expectoration was less streaked and spotted with blood; and of a browner colour, and more disposed to swim. Ordered the bark mixture to be repeated, and the opiate at night, with a tonic aperient pill of aloes, gentian, myrrh, and steel.

" May 4. Strength much increased, countenance more healthy, expectoration browner, not streaked, and less studded with blood, sleep undisturbed, cough easy, appetite good.

" May 5, 6, 7, 8. Mends daily: expectoration very little spotted with blood, of a dark brown, and swims.

" May 9, 10, 11, 12, 13, 14. Continues mending; has increased in flesh; the medicines have produced a total alteration in her appearance, so that few would believe her to be the same person; seldom expectorates.

" May 20. Has left off medicines, thinking herself quite well.

" September 3. I learn that Amy Chatfield has had no return of her disorder, and has continued with the same family in excellent health.

" During the time Amy Chatfield was under my care, she inhaled a quart of hydro-carbonate a day, diluted with thirty of atmospheric air, and felt at the time of inhalation a cool and soothing effect; and at first slight giddiness and nausea; but these soon went off. These effects however were not so conspicuous, as when she inhaled the vapour of æther, which was employed five or six times. This produced little or no nausea. It seemed to soften and enfeeble the pulse; but, after the process was over, it rose, and appeared soft and fuller. As the air was drawn over a large reservoir of cold water, did it not serve as a temporary cold bath, bracing the vessels of the lungs?

Case 5.—Mr. Cochran, an apothecary in London, describes his own case in the following terms:—

" I placed myself under Dr. Thornton's care last June, being subject to hæmoptoe, and bloody and purulent expectoration sinking in water. I had previously, without benefit, but rather with an aggravation of my complaint, tried the air of the country. I inhaled at Dr. Thornton's daily a quart of hydro-carbonate, mixed with *thirty of common air*. It produced at first considerable vertigo, and afterwards much refreshment and a pleasing tranquillity. This was conjoined with the exhibition of bark and

Columbo root; and I was evidently mending. When, at the commencement of August, the weather setting in extremely hot, I left off the reduced atmosphere, but continued the tonic mixture: and, being rather hurried in business, I was in consequence seized with considerable hæmoptoe. The subsequent attacks have, however, been trifling; having, by the direction of Dr. Thornton, at the instant immersed my hands and feet into water, which was surrounded by æther, and a solution of sal ammoniac in water; and then keeping them for some time in the air: after which I took aperients, and next tonics; and it is now three weeks, and I have had no returns whatever of hæmoptoe, nor is my expectoration streaked or spotted with blood. The fever at night, and perspiration in the morning are, however, very oppressive; and having inhaled on the 6th current two tea-spoons full of æther from a tea-pot, I remarked, with another gentleman, that my pulse, which was about 98, sunk at the time from six to eight beats in the minute, and continued throughout the night considerably less full, but equally quick as before. The subsequent effects of æther have been always to soften and enfeeble the pulsations."

Dr. Thornton adds that, in the case of Mr. Cochran, the benefit from the hydro-carbonate was not equally conspicuous; but it is observed, that during the time he was under the pneumatic treatment, he pursued his avocations, and brought on a return of his hæmoptoe. It is stated that he nevertheless persists in his desire of the hydro-carbonate gas, being convinced it did him some service. The sequel of this case is not known to us.

After a case of *hæmoptysis*, which we have already inserted under that head, there appears, in the list published by Dr. Beddoes, a desperate case of phthisis, of which the following are the particulars:

Case 6.—" March 15. William Roberts, aged 34, married, caught a most violent cold in November 1795, which settled in the breast; accompanied with acute pain on the right side, difficulty of breathing, expectoration streaked with blood, a hard cough; for which he was blistered, and the usual antiphlogistic remedies applied. It soon after terminated in phthisis, viz. hot and parched skin in the evening, profuse perspiration in the morning, drought, chilliness in the day, debility, emaciation, and purulent expectoration. He consulted Dr. Wills, physician to the Finsbury Dispensary; who, after attending him for some time, declared to his wife, that no medicine could be of any service, and that he was in a deep decline, and his only hope was his going into the country. He then consulted Mr. Myers, who was of the same opinion; and, having next applied to Dr. Pitcairne, he also told him, medicine would render him no service, and he must go into the country. Ordered an emetic, and tonic

cathartic of rhubarb and vitriolated kali; and, after their operation, a tonic mixture of bark, compound tincture of the same, and myrrh.

" March 17. Cough hard and troublesome. Ordered another aperient.

" March 19. Cough more urgent. Ordered an emulsion of oil of almonds, milk of almonds, sugar and gum arabic; syrup of poppies at night; and the tonic mixture to be resumed.

" March 20. Strength increased; the night's sleep less disturbed; cough less urgent, costive. Ordered a tonic aperient pill of aloes, myrrh, vitriolated iron, and extract of gentian. The other medicines to be taken as before: a Burgundy pitch plaster to be applied to the sternum.

" March 21 to 25. The tonic pills and opiate were ordered to be omitted.

" March 26. Cough urgent. Ordered the opiate to be resumed.

" March 27 to 30. Cough less troublesome; strength increased. Ordered the same medicines to be continued.

" April 1. Strength considerably increased: said, he *walked ten miles in three hours*, and has returned on foot from Woolwich, and felt no fatigue.

" April 2. Expectoration diminished, perspiration less profuse, appetite keen. Ordered the same medicines to be continued.

" April 3 to 14. Amendment great. Expectoration not streaked with blood, but still sinks in water.

" April 18. Walked from Woolwich this morning, and said he felt neither fatigue in going there or returning. Ordered vitriolated iron and extract of bark, to be taken with the tonic mixture. The opiate and emulsion to be omitted.

" April 25. Night sweats wholly gone, only a slight cough in the morning; what he expectorates, when immersed in water, swims; except some small pieces, which detach themselves upon agitation; nights good, spirits alert; for several months had been obliged to leave off his trade; now follows it with satisfaction to himself; says, he 'ails nothing now but a slight cough.' Ordered the tonic medicines gradually to be left off.

" April 30. Appears light and active, has acquired flesh, spirits great, appetite good, coughs but seldom, has however hacking occasionally. Ordered the medicines wholly to be left off, and now and then a little gum arabic to be put into the mouth.

" Sept. 29. Saw Wm. Roberts; he has the appearance of health, and says he has enjoyed good health since his recovery. Advised him to ward against the autumn by a fleecy hosiery waistcoat."

Observation. "From the copious expectoration of this patient," says Dr. Thornton, "I conceived he had a catarrhal de-fluxion from the lungs, local irritation, and general debility. To take off the local irritation he inhaled a reduced atmosphere, formed of the hydro-carbonate a quart, to fifty of atmospheric air; and he had a Burgundy pitch plaster applied to the sternum; and when inflammation was indicated, an aperient. The absorbents were excited to action, first by an emetic, and probably by the hydro-carbonate and tonic medicines; which last tended also to counteract morbid debility and irritability." The doctor next relates,

Case 7.—"May 10. William Dench, printer, married, aged 36, has been, for some months, subject to a violent cough; perspirations in the morning, emaciation, debility, a dull pain at the breast, purulent expectoration, flocculent, and sinking in water; which experiment was tried in his presence; voice hoarse, breathing oppressed, tongue clean, appetite moderate. Ordered an emetic of ipecacuanha, and a cathartic of rhubarb and vitriolated kali.

"May 12. Symptoms the same; feels rather weaker. Ordered the cathartic to be repeated.

"May 14. Less pain under the sternum: rather weaker. Ordered a tonic mixture of decoction of bark, compound tincture of the same, myrrh, and columbo; syrup of white poppies at night and in the morning.

"May 15. Slight stitches in the side, sickness at the stomach, and head-ach. Ordered a Burgundy pitch plaster, and an emetic at night. The opiate to be resumed the night after.

"May 16 to April 8. Continued the opiate night and morning, and the tonic mixture in the day, with tonic aperients *pro re nata*.

"April 9. Cough free, breathing easy; no profuse perspiration at night; upon going up stairs formerly obliged to rest ten minutes before he could possibly proceed to work; now, to use his own expression, he 'has at it immediately;' appetite good, sleep undisturbed. Ordered the syrup to be omitted.

"April 16. Seldom expectorates, and what is coughed up appears to be chiefly mucus. Ordered the tonic mixture gradually to be left off.

"April 18. Came to me to return thanks, being, as he thought, *cured*.

"Sept. 20. Has experienced no relapse; looks well, and says 'he feels very hearty;' he is subject, however, to catarrhs."

Dr. Thornton makes the following observations on this case:

"Mr. Dench frequently inhaled, once a day, a reduced atmosphere, and felt vertigo at first. The quantity was a quart of hydro-carbonate to thirty of atmospheric air. Upon dissection I

have often found signs of a *morbid secretion*, and no ulceration; and, where the expectoration is *copious*, may we not reasonably suspect this rather to be the case, than that what is coughed up is formed from an ulcer? Are not tonics indicated in diseased secretions? and may not the hydro-carbonate give tone to the absorbents? Is not the leucophlegmatic consumption a disease of the absorbents, often previously manifested by tumid glands, though these in an advanced period are rarely to be found?"

Dr. Beddoes inserts a journal of Mrs. B——'s case in the following terms:

Case 8.—"Mrs. B. about 34 years of age, scrophulous habit, subject to eruptions in the face; early in the spring of 1795, in the evening, complained of a slight pain in her throat, and some difficulty in swallowing; which increased so much before the morning, that it was with great difficulty she could swallow a table spoonful of liquid; great pain in the throat and breast, a very hoarse voice; spoke very low, and great pain in speaking; a hot dry skin, pulse 100, great thirst.

"Neutral mixtures, with spermaceti and opium, with blisters to the back and breast, brought on a plentiful sweat, and relieved the affections of the breast and fever in the course of a few days.

"The sweating continuing reduced her so much, that it was thought advisable to give the bark to check it; the saline julep, with laudanum, was occasionally given, to relieve the irritation of the breast, and to procure sleep. She continued gradually to recover for about ten days. The pain in her breast and side returned, which was removed again by the sweating being produced, which left her in a more reduced state than before. The *Angustura* bark checked the sweating: but within fourteen days the whole train of unfavourable symptoms again returned, with troublesome aching pain in the extremities; and was again removed by sweating. In a little time was able to go down stairs, and in fine weather to ride out in an open chaise; but seldom more than a mile at a time, which seemed to be attended with advantage. Yet, nearly about the same distance of time, *i. e.* about fourteen days, she was attacked with all the unfavourable symptoms before mentioned. The *Angustura* bark was then changed for a decoction of the yellow bark, two spoonful twice a day, and the following:

"1st night. Pain in the breast, and side, and back; sweat much in the night; in the day very languid, with frequent giddiness in the head; often faint and sick; took very little nourishment; pulse seventy; very weak; had but little sleep for three nights.

"Took, at going to bed, one quart of hydro-carbonate air,

with resting three times; complains of a slight giddiness in her head.

" 2d. Had a better night; was faint and sick; in the morning was able to ride about two miles in an open chaise; was better of her sickness, the pain in her breast and side easier; had not sweat so much the night before; pulse regular; took one quart of the hydro-carbonate air, with resting twice, and did not complain of any affection of the head.

" 3d. Slept tolerably well in the night, without any sweating; was rather faint when she awoke in the morning, with a slight giddiness of her head; rode out about three miles; the affection of her head better, the pain in her side worse; appetite better for her dinner; in the evening the pain in her side was better, and had been free from pain in her breast all the day; took in the evening three half pints of hydro-carbonate air at three times, which affected her head very much; was not able to take more; the pulse was about 100, and did not seem to be altered from the affection of the head by the air.

" 4th. Slept better; the pain in the side continued, the pain at her breast better; did not sweat in the night, appetite better; pulse eighty; complained of heat in her hands and feet frequently, with giddiness in her head for the course of the day; rode out about four miles; the affection of her head better; took three pints of the hydro-carbonate, which affected her head a little; took it at three times.

" 5th. Slept tolerably well; no sweating; the pain in her breast and side better; pulse 100; frequent flushings of heat in her hands and feet, and a little giddiness in the head; rode out, and the affection of the head was better; took three pints of the air at three times.

" 6th. Rested well; the pain in her breast and side better; sweating entirely gone off; appetite better.

" 7th. In every respect from this time continued gradually recovering, and had not any return of the complaints; continued the use of the air for two months, and is at present better than for twelve months past."

From Dr. Beddoes's *remarks on the foregoing cases*, we think it necessary to make the following extracts, which will conclude what we have to offer on this ingenious system.

" Among the preceding cases," says the doctor, " that of Newbury (related under HÆMOPYSIS) deserves to be distinguished. Mr. Watt, who exhibited the hydro-carbonate, Dr. Carmichael, and Mr. Barr (as I learned from their conversation) were much struck by its effect in lowering the pulse, and mitigating the very alarming symptoms that attended the discharge of blood.

* Mr. Watt informed me, that this gas was prepared from one part in bulk of cast-iron borings, and three of charcoal. It was so strong, that, when fresh made, N. could not bear above a quart at a dose. Mr. Watt's queries on this case were, 1st. Could the iron do any thing? 2. Does not the case furnish a hint, that copious eruptions upon the legs would be of use? 3. And might they not be produced by frictions with flour of mustard, cowhage, &c.? The editor had this year a consumptive patient, on whose body a copious progeny of boils broke out in long-continued succession, but without any change in the symptoms.

" Mr. Watt, in a letter, dated Aug. 17, 1796, informed me, that Mr. Barr counted Newbury's pulse in the first fever fit, and made it 100; and that it fell to ninety *during the time he was taking the first pint of hydro-carbonate*. The second, or threshing fever, I could not count it; but suppose it to have been at least 120, and strong! In about three days it was got nearly natural, and the eruption appeared. In the interim, he had three pints of hydro-carbonate twice a-day."

" In cases like this I should advise hydro-carbonate air with considerable expectation of advantage. But we shall not soon have a sufficient number of facts to determine its virtues; as considerable hæmorrhage from the lungs, with strong pulse, is a disease rather unfrequent: and it is still more uncommon for a physician to be called in, till ulceration of the lungs, the formation of new vessels, or the power of habit, has altered the nature of the complaint.

" On the foregoing cases of consumption, in which hydro-carbonate was used along with *powerful drugs*, it is obvious to remark, that the drugs would not of themselves have produced the effect. Should the favourable event, as it reasonably may, occasion scruples respecting the real nature of the complaint, it is to be observed, that, in general, the account of the symptoms is very precise, and the expressions very pointed. A perfectly impartial practitioner, for instance, says, that he does not think it *possible phthisis pulmonalis* could be more strongly marked than in W. Roberts."

" From such reports, I infer only, that it may be proper *cautiously* to administer hydro-carbonate, or other factitious unrespirable air in consumption, two, three, or four times a day, till either some remedy of a different nature be discovered, or some better method of employing these substances be rendered practicable.

" The only other example of a disagreeable effect produced upon a patient of my own, that has ever occurred to me from this class of airs, is the following. A person, far advanced in consumption, had his hydro-carbonate increased from one pint

to two quarts. He took two quarts in the morning in bed without any unpleasant feelings. He took two quarts in the evening, also in bed; and, after sleeping about twenty minutes, awaked with a violent head-ach, succeeded by some delirium. His hectic fever ran higher than usual in the night: it was aggravated, I suppose, by the head-ach, which was doubtless owing to the hydro-carbonate. Next day, he was very little worse than usual, and afterwards better. The air was the same morning and evening.

"I have occasionally seen *good sleep* from very moderate doses of hydro-carbonate. Miss S. daughter of Dr. S. constitutionally very feeble, and in the last stage of consumption, after taking a quart of hydro-carbonate, could sleep sixteen hours out of the twenty-four without medicine. She felt no head-ach or other inconvenience. This effect continued, with some abatement, for a week; when she went from the Hotwells. I have lately received an account of the similar operation of an over dose of hydro-carbonate. 'A woman, aged —, had been afflicted with a cancerous ulcer for more than ten years, the pain of which deprived her of sleep almost completely; at least her sleep was neither sound nor refreshing. She was treated with oxygene, which had some good effects. *I believe*, hydro-carbonate was also tried, of which, accidentally, she got one day a large dose, which brought on syncope and deliquium, which lasted a considerable time. When she recovered, she was put to bed, and slept sound many hours. Next day she said she had been in paradise, and that all the sleep she had had for ten years put together, did not amount to so much as she had had this last night, and the pain of the cancer continued easier throughout that day. The event of the case I have not been informed of, but believe there was no cure.

"Continued reflection, and information from various quarters, lead me still to expect, that we shall arrive at a method of treating consumption successfully. All the great attempts, in which human genius has succeeded, were taxed beforehand as presumptuous follies. *Le vulgaire de chaque siecle cite avec emphase le passe contre l'avenir: celui qui succede le voit dementi par l'evenement; mais en insultant à son erreur il l'imite, et deplaçant seulement ses negations, il n'en poursuit pas moins infatigablement ses proscriptions prophetiques.*"

4. *Uncommon cases of Phthisis.*] As this disease admits of some variety in certain instances, the reader will not disapprove of the following, which we select from the *Memoirs of the Medical Society of London*.

The first we shall exhibit is an account of a species of phthisis pulmonalis, peculiar to persons employed in painting needles in the needle manufacture, by Dr. Johnstone, of Worcester.

“ The needle manufactory,” says Dr. Johnstone, “ is carried on to considerable extent, in a line of this country extending from Bromsgrove to Alcester, especially at Red-ditch, which is nearly in the centre of that line.

“ Persons employed in pointing the needles by dry grinding them, are constantly very soon affected with pulmonary complaints, such as cough, purulent or bloody expectoration ; and being so affected, they gradually waste in flesh and strength, and hardly ever attain the age of forty years.

“ As the business is known to be constantly attended with such fatal effects, the manufacturers find it not very easy to engage persons to work at it ; and they who are engaged, are so well paid as to get money enough to mispend in drink ; being, for the most part, in this respect, persons of very irregular manners.

“ Parents in binding their children to the needle trade, for the most part, condition, that they shall not be employed in this pernicious branch of the manufactory, the grinding or pointing the needles.

“ Besides their habitual excess in drinking, the persons so employed chew much tobacco, in order, perhaps, to solicit a secretion of saliva, which they throw out plentifully to wet their hands, and the needles over-heated in attrition with the grindstone.

“ Surely it would not be difficult to have a vessel filled with cold water near, occasionally to dip therein the hand, and cool the metal, and thereby to avoid this perpetual waste of a fluid, by the loss of which digestion is impaired and strength sunk. Nor would it be difficult to contrive a crape hood or gauze helmet, to receive the head and rest on the shoulders, which would prevent a great deal of the metalline and stony particles of dust, which fly off in the operation of dry grinding the needles, from entering the ramifications of the trachea arteria, and cells of the lungs, with the air in the action of inspiration.

“ The cause of the pulmonary phthisis peculiar to the people who follow this business, is, undoubtedly, the continual irritation of the lungs by the dust of small particles of iron and stone, and their gradual congestion into small concretions on the air cells of the lungs.

“ They unite there into small balls by means of the mucus which is secreted in order to defend the tender substances of the lungs.

“ By the continual irritation of the tender and irritable surface of the lungs the suppurative inflammation is gradually produced, which at length ends in ulceration.

“ In the earlier stages of the disease, the cough which is produced, brings up only slime and mucus ; or, perhaps, produces

hæmoptoe : in the advanced state, the matter expectorated is purulent, and often mixed with the fine dust of the iron and stone, united with mucus in a hardened state.

“ The progress of the disease produces all the too well known symptoms of confirmed phthisis pulmonalis. The patients gradually grow thinner and more emaciated ; and are at last wasted by colliquative sweats and diarrhœa, till they cease to live. This progress is no doubt accelerated by the waste of saliva, as well as by intemperance in drinking.

“ This fatal progression is too well known, and particularly so to the unhappy victims of it ; so much indeed, as to precipitate them by a kind of despair to neglect all means of relief.

“ In a considerable number of patients for whom I have been consulted, I have given temporary relief by medicines usually prescribed for tabid patients of the pulmonary kind. I have often relieved and suspended the progress of the disease ; but when it had lasted some time, been rooted by habit, on continuing the business which was the original cause of it, it has generally ended fatally.

“ I think it probable that if these persons were induced so far to attend to their safety as to use endeavours to prevent the inhalation of this pernicious dust, by a contrivance of the nature I have suggested ; and if they would habitually cool their hands and the heated needles, instead of wasting their saliva for that purpose, these precautions, with temperance, might very much retard, if not prevent, the progress of this fatal disease. Besides, the hope thus supported would probably make these persons more careful of themselves, and more attentive to the means of early relief and of cure.”

The other instance of singularity in this disease is that of a *pulmonary consumption* existing, and proving fatal, *without any evident hectic fever*. The case is related by Dr. Fothergill, of Bath.

“ Master D——, though well formed at his birth, and healthy during his early infancy, afterwards contracted a considerable deformity of his chest, the right side of the bosom being greatly depressed, while the left became very protuberant ; a valetudinary state of health succeeded, and increased with his years, attended with cough, difficult respiration, expectoration of viscid phlegm, and a gradual wasting of the flesh, till at length he became extremely emaciated.

“ He bore his sufferings with wonderful patience ; his manners were endearing, and his understanding far beyond his years. His afflicted parents had recourse to every aid that medical science could suggest, and no expence was spared that change of air or climate could afford, but alas in vain ! Having struggled with

an incurable disease till the eleventh year of his age, a sudden increase of the symptoms came on, the countenance assumed a cadaverous hue, the pupils of the eyes dilated, respiration extremely laborious; pulse low, fluttering, and depressed; extremities cold, but the senses remained entire, and the mind collected to the last, when death interposed, and afforded a happy release from all his sufferings.

"Being called to him the day before his death, and having remarked the above symptoms, I was much surprised to hear that through the whole course of his illness, he had shewn no evident signs of hectic fever; no night sweats, no rigors, no purulent expectoration, or other symptom of pulmonary consumption, except those above mentioned, and an inability of lying on the left side. Before his decease indeed a tumor had formed on the left lumbar region, which, however, did not suppurate, but suddenly disappeared, attended with internal commotion, and an evident increase of the symptoms.

"The peculiarities which I have just noticed in the above case, rendered a further inspection of the body after death extremely desirable. This being agreed to, Mr. Phillot, an able surgeon, this day opened the body in my presence, when the following phenomena presented themselves to our view."

The appearances after death are thus described:

"On the second day after the death of the deceased, the external muscles of the chest and abdomen were become extremely livid, and the odor offensive: on opening the abdomen there gushed out a great quantity of yellow foetid serum, which deluged the whole cavity, a great share of which seemed to have been extravasated after death. The omentum (as might be expected) was nearly obliterated. The liver, though found, was greatly enlarged, and adhered in several places to the adjacent ribs. The gall-bladder appeared turgid with yellow bile. The spleen small, and exhibited at its lower extremity a round tubercular appendage which seemed little more than a *lusus naturæ*. The rest of the abdominal contents appeared natural. On opening the thorax the left lobe of the lungs seemed tolerably sound, but the whole right lobe was *totally destroyed*, and the cavity completely full of very foetid purulent matter, *without even a vestige of pulmonary substance*. The adjacent ribs felt somewhat rough, and scabrous from being eroded, by the vast quantity of corrupt purulent matter that had so long stagnated in the cavity. The heart as well as the left lobe of the lungs, being defended by their proper coats, escaped corrosion, and were found entire."

"From this singular case," continues Dr. Fothergill, "may we not draw the following conclusions.

"1st. That the disease was a genuine consumption of the lungs, and though extremely slow in its progress, was neverthe-

less from its silent depredation, and from the deformity of the chest, utterly irremediable.

“ 2d. That an entire lobe of so important an organ as the lungs, may under certain circumstances be destroyed, and yet respiration, while the opposite lobe remains entire, be carried on for a considerable length of time—a wise provision in the human frame, and a striking example among many others of the wisdom and benevolence of the Divine Architect!

“ 3d. That though hectic fever, with night sweats, &c. is held to be an *inseparable concomitant* of a consumption of the lungs, yet the present case affords a notable instance of the contrary.

“ 4th. That though this exception to the general rule is the *only* one that has fallen under my *own* observation, it is perhaps not the only one that has occurred in practice; for if I recollect right, a similar instance is recorded by professor De Haen (see *Ratio Medendi*), which, in conjunction with the present case, ought to be a caution to practitioners not to pronounce (as some men of eminence in the present instance had done too hastily) that there *can be no true* consumption of the lungs without hectic fever.

“ 5th. That purulent matter may for a long time be gradually accumulated in the chest without being expectorated or absorbed; for had it been considerably diminished by either of these operations, the cavity would not have been found quite full, as we discovered in the above case.

“ 6th. That the great accumulation was evidently owing to the want of expectoration, and of absorption; and that the want of expectoration arose from the destruction of that lobe of the lungs where the matter was deposited, for the sound lobe contained no purulent matter to be expectorated, nor could absorption take place where the organ with all its lymphatic vessels were destroyed.

“ 7th. That the matter being slowly formed and gradually increased (as it undoubtedly had been from a remote period), nature became at length habituated to the pressure, and being thus by degrees accustomed to the load, no hectic fever was kindled up in the system, as it always is in more inflammatory hectic cases, and where the progress is more rapid.

“ 8th. That as purulent matter, like other fluids, gravitates to the most depending part, and varies according to the position of the body, it is easy to explain why instinct prompted him to the most favourable posture, obliging him constantly to turn to his right side, by which means the left lobe of the lungs, the only part of the organ by which respiration could now be carried on (however imperfectly) was left more at liberty to perform its functions.”

GENUS XXXVIII. HÆMORRHOIS.

HEMORROIDS, or PILES.

Hæmorrhoids, *Sauv.* gen. 217. *Lin.* 192. *Sag.* gen. 182.
 Hæmorrhoidalis fluxus, *Hoffm.* 219.
 Hæmorrhoides, *Junck.* 11. and 12.
 Leucorrhoids, *Vog.* 112.

Sp. I. *External Piles.*Var. A. *Bloody Piles.*

Hæmorrhoids moderata, *Sauv.* sp. 1.
 Hæmorrhoides ordinatæ, *Junck.* 11.
 Hæmorrhoides nimix, *Junck.* 11.
 Hæmorrhoids immodica, *Sauv.* sp. 2.
 Hæmorrhoides excendentes, *Alberti*, de hæmorrhoid. p. 179.
 Hæmorrhoids polyposa, *Sauv.* sp. 3.

Var. B. *Mucous Piles.*

Hæmorrhoides decoloratæ, albæ, et mucidæ, *Junck.* 13. *Alberti*, p. 248.

Sp. II. The *Piles* from a *Procidencia Ani.*

Hæmorrhoids ab exania, *Sauv.* sp. 4.

Sp. III. The *Running Piles.*Sp. IV. The *Blind Piles.*

Hæmorrhoides cœcæ, *Junck.* 12. *Alberti*, p. 274.

1. *Description.*] The discharge of blood from small tumors on the verge of the anus constitutes what is called the *hæmorrhoids* or *piles*. They are distinguished into the *external* and *internal*, according to the situation of the tumors, either without or within the anus. Sometimes, however, these tumors appear without discharging any blood; and in this case they are called the *hæmorrhoides cœcæ*, or *blind piles*. Sometimes the disease appears

without the verge of the anus in distinct separate tumors; but frequently only one tumid ring appears, seeming as it were the anus pushed without the body. Sometimes these tumors appear without any previous disorder of the body: but more frequently, before the blood begins to flow, and sometimes even before the tumors are formed, various affections are perceived in different parts of the body; as head-ach, vertigo, stupor, difficulty of breathing, sickness, colic pains, pain of the back and loins, and frequently a considerable degree of pyrexia; while along with these symptoms there is a sense of fullness, heat, itchings, and pain, in and about the anus. Sometimes the disease is preceded by a serous discharge from the anus; and sometimes this serous discharge, accompanied with swelling, seems to come in place of the discharge of blood, and to relieve the above-mentioned disorders of the system. This serous discharge hath therefore been named the *hæmorrhœis alba*.

In this disease the quantity of blood discharged is different upon different occasions. Sometimes it flows only when the person goes to stool, and commonly follows the discharge of feces. In other cases it flows without any discharge of feces; and then generally in consequence of the disorders above mentioned, when it is also commonly in larger quantity. This is often very considerable; and by the repetition, so great, that we could hardly suppose the body to bear it but with the hazard of life. Indeed, though rarely, it has been so great as to prove suddenly fatal. These considerable discharges occur especially to persons who have been frequently liable to the disease. They often induce great debility, and frequently a leucophlegmatia or dropsy which proves fatal. Sometimes the tumors and discharges of blood in this disease recur exactly at stated periods. In the decline of life it frequently happens that the hæmorrhoidal flux, formerly frequent, ceases to flow; and in that case it generally happens that the persons are affected with apoplexy or palsy. Sometimes hæmorrhoidal tumors are affected with inflammation, which ends in suppuration, and gives occasion to the formation of fistulous ulcers in those parts.

The hæmorrhoidal tumors have often been considered as varices or dilations of the veins; and in some cases varicous dilations have appeared upon dissection. These, however, do not appear in the greater number of cases; and Dr. Cullen is of opinion that they are usually formed by an effusion of blood into the cellular texture of the intestine near to its extremity. When recently formed, they contain fluid blood; but after they remain for some time, they are usually of a firmer consistence, in consequence of the blood being coagulated.

2. *Causes, &c.*] It would seem probable, that the hæmor-

rhoidal tumors are produced by some interruption of the free return of the blood from the rectum, by which a rupture of the extremities of the veins is occasioned. But considering that the hæmorrhagy occurring here is often preceded by pain, inflammation, and a febrile state, and with many other symptoms which show a connection of the topical affection with the state of the whole system, it is probable that the interruption of the blood in the veins produces a considerable resistance to the motion of the blood through the arteries, and consequently that the discharge of blood is commonly from the latter. Some have thought, that a difference of the hæmorrhoids, and of its effects upon the system, might arise from the difference of the hæmorrhoidal vessels from whence the blood issued. But Dr. Cullen is of opinion, that we can scarce ever distinguish the vessels from which the blood flows, and that the frequent inosculations of both arteries and veins belonging to the lower extremity of the rectum, will render the effects of the hæmorrhagy much the same, from whatever source it proceeds.

With regard to the hæmorrhoids, however, he is of opinion, that they are, for the most part, merely a topical affection. They take place before the period of life at which a venous plethora happens. They happen to females, in whom a venous plethora determined to the hæmorrhoidal vessels cannot be supposed to occur; and they happen to both sexes, and to persons of all ages, from causes which do not affect the system, and are manifestly suited to produce a topical affection only.

These causes are, in the first place, the frequent voiding of hard and bulky fæces, which, by their long stagnation in the rectum, and especially when voided, must necessarily press upon the veins of that part, and interrupt the course of the blood in them. For this reason the disease so frequently happens to those who are habitually costive. From the same causes, the disease happens frequently to those who are subject to a prolapsus ani. In voiding the fæces, it almost always happens that the internal coat of the rectum is more or less protruded; and, during this protrusion, it sometimes happens that the sphincter ani is contracted; in consequence of this, a strong constriction is made, which, preventing the fallen-out gut from being replaced, and at the same time preventing the return of blood from it, occasions a considerable swelling, and the formation of a tumid ring round the anus.

Upon the sphincter's being a little relaxed, as it is immediately after its strong contraction, the portion of the gut which had fallen out is commonly taken into the body again; but by the frequent repetition of the accident, the size and fulness of the ring formed by the prolapsed intestine is much increased. It is therefore more slowly and difficultly replaced; and in this consists the chief uneasiness of hæmorrhoidal persons. As the internal

edge of this ring is necessarily divided by clefts, the whole often puts on the appearance of a number of distinct swellings; and it also frequently happens, that some portions of it are more considerably swelled, become more protuberant, and form those small tumors more strictly called *hæmorrhoids* or *piles*.

From considering that the pressure of the *fæces*, and other causes interrupting the return of venous blood from the lower extremity of the rectum, may operate a good deal higher up than that extremity, we may understand how tumors may be formed within the anus; and probably it also happens, that some of the tumors formed without the anus may continue when taken within the body, and even be increased by the causes just mentioned. Thus may the production of internal piles be explained, which, on account of their situation and bulk, are not protruded on the person's going to stool, and are therefore more painful.

The production of piles is particularly illustrated by this, that pregnant women are frequently affected with the disease. This is to be accounted for, partly from the pressure of the uterus upon the rectum, and partly from the costive habit to which pregnant women are liable. Dr. Cullen has known many instances of piles happening for the first time during the state of pregnancy; and there are few women who have had children, that are afterwards entirely free from piles. Purgatives also, especially those of the more acrid kind, and particularly aloetics, are apt to produce the piles when frequently used; and as they stimulate particularly the larger intestines, they may be justly reckoned among the exciting causes of this disease.

3. *Prognosis.*] Though the *hæmorrhoids* are commonly, as we have said, to be esteemed a topical disease, they may, by frequent repetition, become habitual and connected with the state of the whole system; and this will more readily happen in persons who have been once affected with the disease, if they be frequently exposed to a renewal of the causes which occasioned it. It happens also to persons much exposed to a congestion in the hæmorrhoidal vessels, in consequence of their being often in an erect position of the body, and in an exercise which pushes the blood into the depending vessels, while at the same time the effects of these circumstances are much favoured by the abundance and laxity of the cellular texture about the anus. It is to be particularly observed, that when an hæmorrhoidal affection has either been originally, or has become, a disease of the system, it then acquires a particular connection with the stomach; so that certain affections of the stomach excite the hæmorrhoidal disease, and certain states of this disease excite the disorders of the stomach.

It has been an almost universally-received opinion, that the hæmorrhoidal flux is a salutary evacuation, which prevents many

diseases that would otherwise have happened; and that it even contributes to give long life: and as this opinion has been strenuously adopted by Dr. Stahl, it has had a very considerable influence on the practice of physic in Germany. But Dr. Cullen maintains that we can never expect to reap much benefit from this flux, which at first is purely topical; and, granting that it would become habitual, it is never, he thinks, proper to be encouraged. It is a disagreeable disease; ready to go to excess, and thereby to prove hurtful, and sometimes even fatal. At best it is liable to accidents, and thus to unhappy consequences. He is therefore of opinion, that even the first approaches of the disease are to be guarded against; and that, though it should have proceeded for some time, it ought always to be moderated, and the necessity of it superceded.

4. *Cure.*] The general intentions of cure in cases of hæmorrhoids are much varied, according to the circumstances of the affection at the time. When hæmorrhoids exists in the state of tumor, the principal objects are, to counteract inflammation, and to promote a discharge of blood from the part. When it is in the state of evacuation, the chief intentions of cure are, to diminish the impetus of blood at the part affected, and to increase the resistance to the passage of blood through the ruptured vessels. And finally, when the disease exists in the state of suppuration, the aims of the practitioner must chiefly be, to obviate the particular affections which are induced in consequence of the suppression; to restore the discharge, as a means of mitigating these and preventing others; or, when the discharge cannot with propriety or advantage be restored, to compensate the want of it by vicarious evacuations.

With these various intentions in different cases, a variety of different remedies may be employed with advantage.

When any evident cause for this disease is perceived, we ought immediately to attempt a removal of that cause. One of the most frequent remote causes is an habitual costiveness; which must be obviated by a proper diet, such as the person's own experience will best direct; or if the management of diet be not effectual, the belly must be kept open by medicines, which may prove gently laxative, without irritating the rectum. Dr. Saunders directs the following:

(No. 197.) R. Flor. sulphur. ʒj.

Kali vitriolat. in pulv. trit. ʒij.

Elect. Sennæ ʒj.

Syr. Simp. q. s. ut fiat Electuarium molle, de quo, singulis noctibus, minutum cochleare sumat.

With the same view Dr. Hugh Smith recommended

(No. 198.) ℞ Elect. lenitiv. ℥j.

Lac. sulphur.

Nitri. aa ℥j.

Syr. e cort. aurant. q. s. ut fiat Electuarium. Sum.
q. n. m. mane et vesp.

In most cases it will be of advantage to acquire a habit with regard to the time of discharge, and to observe it exactly. Another cause of the hæmorrhoids to be especially attended to is the prolapsus ani, which is apt to happen on a person's having a stool. If this shall occur to any considerable degree, and be not at the same time easily and immediately replaced, it most certainly produces piles, or increases them when otherwise produced. Persons therefore who are liable to this prolapsus, should, after having been at stool, take great pains to have the intestine immediately replaced, by lying down in an horizontal posture, and pressing gently upon the anus, till the reduction shall be completely obtained. When this prolapsus is occasioned only by the voiding of hard and bulky fæces, is to be removed by obviating the constiveness which occasions it. But in some persons it is owing to a laxity of the rectum; and in those it is often most considerable on occasion of a loose stool. In these cases, it is to be treated by astringents, and proper compresses are to be employed to keep the gut in its place. The *Fomentum Gallæ* of Guy's hospital is a very suitable topic under such circumstances:

(No. 199.) ℞ Gallæ contusæ unc. fs.

Aquæ ferventis lib. ij.

These are to be macerated for an hour or two, and the strained liquor employed as a fomentation.

The *unguentum gallæ camphoratum* of the Pharmacopœia Chirurgica may be still more effectual:

(No. 200.) ℞ Gallarum pulveris subtilissimi drach ij.

Camphoræ gran. ij.

Adipis suillæ præparatæ unc. j.

Misce fiat unguentum.

Dr. Hugh Smith employed the following:

(No. 201.) ℞ Aq. calcis simp. ℥vj.

Tinct. opii. ℥ss.

Misce pro fotu tepide, partib. affect. usurpand.

Vel (No. 202.) ℞ Aq. fontan. ℥iv.

Zinc. Vitriol. ℥ij.

Misce fiat Lotio.

Very similar to the last of these is the topic directed by Dr. Saunders:

(No. 203.) ℞ Zinci vitriolati gr. x.

Aquæ rosæ ℥v.

Solve ut fiat Injectio. Utatur tepida.

Or the *Decoctum Quercus* of St. Bartholomew's may be used:
(No. 204.) ℞ *Quercus contusi* ℥ij.

Aquæ distillatæ lib. ij.

Decoque ad libras duas et cola, pro Lotione.

When the disease has frequently recurred from neglect, and is thus in some measure established, the methods above mentioned are no less proper; but in this case some other measures must also be used. It is especially proper to guard against a plethoric state of the body; and therefore to avoid a sedentary life, full diet, and intemperance in the use of strong liquor, which in all cases of hæmorrhagy is of the most pernicious consequence. The following cooling mixture is directed by Dr. Saunders:

(No. 205.) ℞ *Nitri purificati* ʒj.

Lac. amygdal. ℥viij.

Solve conterendo, ut fiat Mistura.

Sumantur cochlearia tria, singulis quadrihoriis.

Exercise of all kinds is of great service in obviating and removing a plethoric state of the body; but upon occasion of the hæmorrhoidal flux, when this is immediately to come on, both walking and riding, as increasing the determination of the blood into the hæmorrhoidal vessels, are to be avoided. At other times, when no such determination is already formed, these modes of exercise may be very properly employed.

Another method of removing plethora is by cold bathing; but this must be employed with caution. When the hæmorrhoidal flux is approaching, it may be dangerous to divert it; but during the intervals of the disease, cold bathing may be employed with safety and advantage; and in those who are liable to a prolapsus ani, the frequent washing of the anus with cold-water may be useful.

Besides general antiphlogistic regimen, in some cases where the inflammation runs high, recourse may be had with great advantage both to general blood-letting, and to leeches applied at the anus. Relief is also often obtained from the external application of emollients, either alone or combined with different articles of the sedative kind, as *acetated ceruse* or *opium*, by which it is well known, that pain in general, particularly when depending on increased sensibility, or augmented action of the vessels, is powerfully allayed. The *Unguentum hæmorrhoidale* of St. Thomas's may answer this end: though the addition of a very small portion of *camphor* would be an improvement.

(No. 206.) ℞ *Ung. cerussæ* ʒss.

Opii in pulv. trit. ʒss. *Misce.*

When the flux has actually come on, we are to moderate it as much as possible, by causing the patient to lie in an horizontal posture on a hard bed; by avoiding exercise in an erect posture; using a cool diet, and avoiding external heat. But with respect

to the further cure of this disease, we must observe, that there are only two cases in which it is common for hæmorrhoidal persons to call for medical assistance. The one is, when the affection is accompanied with much pain; and the other, when the piles are accompanied with excessive bleeding. In the first case, we must consider whether the piles be external or internal. The pain of the external piles happens especially when a considerable protrusion of the rectum has taken place; and while it remains unreduced, it is strangled by the constriction of the sphincter; and at the same time no bleeding happens to take off the swelling of the protruded portion of the intestine; and sometimes an inflammation supervenes, which generally aggravates the pain. In this case the emollient fomentations and poultices (No. 116.) or (No. 117.) are sometimes of service, but the application of leeches is always to be preferred.

Where the piles become an habitual disease, and the rectum is affected pretty generally, so as to threaten the patient with a fistula, *Dr. Ward's celebrated Paste*, of which the following formula is given by Dr. Hugh Smith, proves an admirable medicine:

(No. 207.) ℞ Rad. enul. campan. ℥ij.

Sem. fœniculi, ℥iij.

Piper. nig. ℥j. Separatim in pulv. trita bene miscantur. Dein adde,

Sacchari et mellis despumat. aa ℥ij. ut fiat omnium pasta sumend. quant. nuc. mosch. bis terve de die.

In case of excessive bleeding, we are on all occasions to endeavour to moderate the flux, even where the disease has occurred as a critical discharge; for if the primary disease shall be entirely and radically cured, the preventing any return of the hæmorrhoids seems perfectly safe and proper. It is only when the disease arises from a plethoric habit, and from a stagnation of blood in the hypochondriac region, or when, though originally topical, it has by frequent repetition become habitual, and has thereby acquired a connection with the system, that any doubt can arise about curing it entirely. In any of these cases, however, Dr. Cullen is of opinion that it will be proper to moderate the bleeding, lest, by its continuance or repetition, the plethoric state of the body, and the particular determination of the blood into the hæmorrhoidal vessels, be increased, and the return of the disease be too much favoured. Dr. Stahl is of opinion, that the hæmorrhoidal flux is never to be accounted excessive excepting when it occasions great debility or leucophlegmatia: but Dr. Cullen thinks, that the freest approach towards producing either of these effects should be considered as an excess which ought to be prevented from going farther; and even in cases of congestion and plethora, if the plethoric habit and tendency can be obviated and removed, the

hæmorrhoidal flux may then with safety be entirely suppressed. In all cases therefore of excessive bleeding, or any approach to it, astringents both internal and external may be safely and properly applied; not indeed to induce an immediate and total suppression, but to moderate the hæmorrhagy, and by degrees to suppress it altogether; while at the same time measures are to be taken for the removing the necessity of its recurrence.

Mr. Custance, of Kidderminster, who writes in the Medical and Physical Journal, resists the opinion of Dr. Cullen, and others, who have considered the Piles as depending on *constitutional* plethora; and thinks they are a *local* affection of the rectum only.—“ Dr. Hugh Smith (says he) has defined the Piles to be ‘ a disease which derives its origin from an effusion of blood into the cellular membrane of, and surrounding the rectum;’ and has advised ‘ anodyne and repellent *liniments* and *fomentations*, keeping open the body by gentle, cooling purgatives.’ These often prove palliatives where there are any external excrescences, but will generally be found ineffectual for the *inward* Piles. Considering the fulness and pain which are felt in this state of the disorder, to depend on a relaxed state of the coats of the rectum, occasioning a slower circulation of the blood, in that part, than in the healthy state, I have long been in the habit of administering *anodyne* and *astringent injections*, which I have found very successful in completely removing the Piles, especially in young persons. The injection I always use is the following; the proportion of each ingredient being varied according to circumstances:

(No. 208.) ℞ Tinct. ferri muriati ʒij.

Tinct. opii ʒi ad ʒij.

Decoct. hordei ʒiv.

M. ft. Enema bis de die injiciend.

“ Proper attention being paid to diet will commonly prevent costiveness; and bark, with other stimulants, will be found more beneficial than purging medicines; as, by strengthening the tone of the viscera, their natural functions are gradually restored.” These injections the author does not propose as remedies for *external excrescences*. The latter, he observes, may be removed by ligature, in most cases, without any danger.

Injections consisting of the camphorated mixture and tincture of opium are frequently of use; but a very simple remedy in cases where constitutional debility attends, as in persons somewhat advanced in life, is the swallowing, twice a-day, a pill, consisting of four or five grains of *common pitch*.

The piles are a disease in which generally the SURGEON is first applied to; we have therefore noticed the subject in our fourth volume, where the reader will find some excellent practical remarks by Mr. WARE.

GENUS XXXIX. MENORRHAGIA.

Immoderate Flux of the MENSES.

- Menorrhagia, *Sauv.* 244. *Lin.* 202. *Vog.* 96.
 Menorrhagia, *Sag.* gen. 179.
 Uteri hæmorrhagia, *Hoffm.* II. 224.
 Hæmorrhagia uterina, *Junck.* 14.
 Leucorrhœa, *Sauv.* gen. 267. *Lin.* 201. *Vog.* 119. *Sag.*
 gen. 202.
 Cachexia uterina, five fluor albus, *Hoffm.* III. 348.
 Fluor albus, *Junck.* 133.
 Abortus, *Sauv.* gen. 245. *Lin.* 204. *Sag.* gen. 180. *Junck.* 92.
 Abortio, *Vog.* 97.
 Fluor uterini sanguinis, *Boerb.* 1303.
 Convulsio uteri, five abortus, *Hoffm.* III. 176.

Sp. I. The *Immoderate Flow* of the MENSES, properly so called.

Menorrhagia rubra, *Cul.*

Menorrhagia immodica, *Sauv.* sp. 3.

Menorrhagia stillititia, *Sauv.* sp. 2.

1. *Description.*] The quantity of the menstrual flux is different in different women, and likewise in the same women at different times. An unusual quantity therefore is not always to be considered as morbid: but when a large flow of the menses has been preceded by head-ach, giddiness, or dyspnœa; has been ushered in by a cold stage, and is attended with much pain of the back and loins, with a frequent pulse, heat and thirst; it may then be considered as preternaturally morbid. On the other hand, when the face becomes pale, the pulse weak, an unusual debility is felt in exercise, and the breathing hurried by little labour; when the back becomes pained from any continuance in an erect posture, when the extremities become frequently cold, and when at night the feet appear affected with œdematous swelling; from all these symptoms we may conclude, that the flow of the menses has been immoderate, and has already induced a dangerous state of debility. The debility, induced in this case, often appears also by the affections of the stomach, an anorexia, and other symptoms of dyspepsia; by a palpitation of the heart, and frequent faintings; by a weakness of mind, liable to strong emotions from slight causes, especially those presented by surprise. A large flow of the menses attended with barrenness in married women, may generally be considered

as preternatural and morbid. Generally, also, that flow of the menses may be considered as immoderate, which is preceded and followed by a leucorrhœa.

2. *Causes, &c.*] The proximate cause of the menorrhagia is either the effort of the uterine vessels preternaturally increased, or a preternatural laxity of the extremities of the uterine arteries.—The remote causes may be, 1. Those which increase the plethoric state of the uterine vessels; as a full and nourishing diet, much strong liquor, and frequent intoxications. 2. Those which determine the blood more copiously and forcibly into the uterine vessels; as violent strainings of the whole body; violent shocks from falls; strokes or contusions on the lower belly; violent exercise, particularly dancing; and violent passions of the mind. 3. Those which particularly irritate the vessels of the uterus: as excess in venery; the exercise of venery in the time of menstruation; a costive habit, giving occasion to violent straining at stool; and cold applied to the feet. 4. Those which having forcibly overstrained the extremities of the uterine vessels; as frequent abortions, frequent child-bearing without nursing, and difficult or tedious labours. Or, lastly, those which induce a general laxity; as living much in warm chambers, and drinking much of warm enervating liquors, such as tea, coffee, &c.

3. *Cure.*] The treatment and cure of the menorrhagia, must be different according to the different causes of the disease. The means employed, however, are chiefly used with one or two intentions; either with the view of restraining the discharge when present, or of preventing the return of an excessive discharge at the succeeding period. The first is chiefly to be accomplished by employing such remedies as diminish the force occasioning the discharge of blood, or as augment the resistance to its passage through the vessels by which it is to be discharged. The last is in some degree to be obtained by avoiding causes which either increase the general impetus of the blood, or the impetus at the uterus in particular; but principally by giving additional vigour to the uterine vessels.

In all cases, the first attention ought to be given to avoiding the remote causes, whenever that can be done; and by such attention the disease may be often entirely cured. When the remote causes cannot be avoided, or when the avoiding them has been neglected, and a copious menstruation has come on, it should be moderated as much as possible, by abstaining from all exercise at the coming on or during the continuance of the menstruation; by avoiding even an erect posture as much as possible; by shunning external heat, and of course warm chambers and soft beds; by using a light and cool diet; by taking cold drink, at least as far as former habits will allow; by avoiding venery; by obviating costiveness, or removing it by laxatives which give little stimulus.—The sex are commonly negligent, either in avoiding the remote

causes, or in moderating the first beginnings of this disease. It is by such neglect that it so frequently becomes violent and of difficult cure; and the frequent repetition of a copious menstruation may be considered as a cause of great laxity in the extreme vessels of the uterus.

When the coming on of the menstruation has been preceded by some disorder in other parts of the body, and is accompanied with pains in the back, somewhat like parturient pains, with febrile symptoms, and when at the same time the flow seems to be copious, a bleeding at the arm may be proper, but is not often necessary; and it will in most cases be sufficient to employ, with great attention and diligence, those means already mentioned for moderating the discharge.

When the immoderate flow of the menses shall seem to be owing to a laxity of the vessels of the uterus, as may be concluded from the general debility and laxity of the person's habit; from the remote causes that have occasioned the disease; from the absence of the symptoms which denote increased action in the vessels of the uterus; from the frequent recurrence of the disease; and particularly from this, that the female in the intervals of menstruation is liable to a leucorrhœa: in such a case, the disease is to be treated not only by employing all the means above mentioned for moderating the hæmorrhagy, but also by avoiding all irritation, every irritation having a greater effect in proportion as the vessels are more lax and yielding. If, in such a case of laxity, it shall appear that some degree of irritation concurs, opiates may be employed to moderate the discharge; but in using these much caution is requisite. If, notwithstanding these measures having been taken, the discharge shall prove very large, astringents both external and internal may be employed. In such cases, Dr. Cullen asks, may not small doses of emetics be of service?

When the menorrhagia depends upon the laxity of the uterine vessels, it will be proper, in the intervals of menstruation, to employ tonic remedies; as cold bathing and chalybeates. The exercise of gestation also may be very useful, both for strengthening the whole system, and for taking off the determination of the blood to the internal parts.

These remedies may be employed in all cases of menorrhagia, from whatever causes it may have proceeded, if it shall have already induced a considerable degree of debility in the body.

Sp. II. ABORTION.

Menorrhagia abortus, Cul.

Menorrhagia gravidarum, Sauv. sp. 6.

Abortus effluxio Sauv. sp. 1.

a. Abortus subtrimestris.

b. Abortus subsemestris.

c. Abortus octimestris.

Abortus ab uteri laxitate, *Sauv.* sp. 2.

1. *Description.*] Abortion, or miscarriage, may be defined, the premature expulsion of the embryo or fœtus. Some, however, make the following distinction: when a woman miscarries in early gestation, this they consider as an abortion; but if in the latter months, they term it a *premature birth*. The symptoms that threaten abortion are: flooding,—pain in the back and belly,—bearing down pains with regular intermissions,—the evacuation of the waters,—the death of the child.

This latter discovers itself by the following symptoms; though in general these are so doubtful and fallacious, that none of them afford an infallible sign.

1. The subsiding of the abdominal tumor. 2. Cessation of motion in the fœtus. 3. The sensation of a heavy weight falling from side to side, as the woman turns herself in bed. 4. Sicknefs, faintings, rigors, cold sweats. 5. The breasts turning flaccid. 6. Coldness of the abdomen, and putrid discharge from the vagina.

Abortions are seldom dangerous for the first five months; but a frequent habit of miscarriage debilitates the system, shatters the constitution, and lays the foundation of chronic diseases of the most obstinate and dangerous nature.

2. *Prognosis, &c.*] In the advanced months, the prognosis will be more or less favourable according to the patient's state of health, the occasional cause, and symptoms with which it is attended.—The proximate cause of abortion is the same with that of true labour, viz. a contracting effort of the uterus and abdominal muscles, assisted by the other expulsive powers. The remote causes cannot be explained with precision; as many circumstances, with regard to the nature of impregnation, and connection of the fœtus with the placenta and uterus, are subjects still involved in darkness. They may, in general, however, be reduced,

I. To whatever interrupts the regular circulation between the uterus and placenta.

II. To every cause that excites the spasmodic contraction of the uterus, or other assisting powers.

III. To whatever occasions the extinction of life in the fœtus.

Among the first are: 1. Diseases of the uterus. 2. Imperviousness or spasmodic constriction of the extremities of the uterine blood-vessels. 3. Partial or total separation of the placenta or chorion from the uterus. 4. Determination to other parts.

To the second general head belong all causes that produce a strong contraction of the elastic fibres of the uterus, or of the parts that can press upon it, or that occasion a rupture of the mem-

branes: such as, 1. Violent agitation of mind or body. 2. A disease of the membranes. 3. Too large a quantity of liquor amnii. 4. The cross position of the fœtus. 5. Its motion and kicking.

The last head includes the numerous causes of the death of the child, which, besides those referred to in the preceding classes, may be occasioned by, 1. Diseases peculiar to itself. 2. Diseases communicated by the parents. 3. External accidents happening to the mother: or, 4. Accidents incident to the fœtus in utero. 5. Diseases of the placenta or funis. 6. Knots or circinvolution of the chord. 7. Too weak an adhesion of the placenta or chorion to the uterus. 8. Every force that tends to weaken or destroy this attachment. These points will be considered under MIDWIFERY.

3. *Treatment.*] The treatment in these cases must be varied according to the particular circumstances: nor is it possible to point out precise indications, or propose any regular plan to be pursued for this purpose. Abortion is often preceded by no apparent symptom, till the rupture of the membrane, and evacuation of the waters, announce the approaching expulsion of the fœtus. Either to remove threatening symptoms, or to prevent miscarriage when there is reason to apprehend it, often baffles our utmost skill; because it generally happens, that there is a cessation of growth in the ovum; or, in other words, an extinction of life in the fœtus, some time previous to an appearance of abortion. For instance, in early gestation, a woman commonly miscarries about the eleventh or twelfth week; but the age of the fœtus at this time is generally no more than eight weeks. At other times, when by accident the fœtus perishes, perhaps about the fifth or sixth month, it will still be retained in utero, and the expulsion will not happen till near the completion of full time.

As women who have once aborted are so liable to a recurrence from a like cause, at the same particular period, such an accident in future pregnancies should therefore be guarded against with the utmost caution. On the first appearance of threatening symptoms, the patient should be confined to an horizontal posture; her diet should be light and cooling; her mind should be kept as tranquil as possible; a little blood from the arm may be taken occasionally; and opiates administered according to circumstances: but excepting so far as depends on these, and such-like precautions, for the most part, in the way of medicine, very little can be done.

Manual assistance is seldom or never necessary during the first five months of pregnancy: the exclusion of the fœtus and placenta should very generally be trusted to nature.

The medical treatment of abortion must therefore be considered with a view only to the prophylactic cure: and this again will chiefly consist in a proper regimen during pregnancy.

A woman, when pregnant, should live a regular temperate life; moderation in eating and drinking should now be very carefully

observed, and every thing that has any tendency to disagree with the stomach should be avoided; otherwise the manner of life should be much as usual. If complaints do occur, these should be treated as at other times; only guarding against such things, as, by violent operation, may endanger miscarriage. If the woman has formerly been subject to this accident, the cause should be carefully considered, and suitable remedies applied; if plethoric, for instance, she should be bled, live sparingly, and kept quiet, till she gets beyond the dangerous period. If she be weak, delicate, and nervous, bark, light aromatic bitters (No. 49. and 50.), mineral waters, and the cold bath (if able to bear it), will prove the best prophylactic remedies. The cold bath has, in many cases, cured the most obstinate fluor albus, and sometimes even sterility itself; and, in relaxed habits disposed to miscarriage, when every other means has failed, the cold bath has done considerable service. The practice may safely be continued for some months after conception, when it has been early begun, or when the patient has been accustomed to it. Such a shock will, however, act very differently on different systems: hence it is an expedient by no means to be indiscriminately used in the pregnant state. (See the treatment of Fluor Albus, p. 238.)

Abortions that happen in early gestation, and that come on suddenly without any presaging sign, if ever they are to be prevented, it can only be done by avoiding all occasional causes, by counteracting morbid dispositions, and by confinement to a horizontal posture, for some time before, and till the critical period be over.

When a venereal taint in the parents is suspected to be the cause either of abortion or the death of the foetus, the like accident can only be prevented by putting both parties on a mercurial course.

Pregnant women require a free pure air; their amusement should often be varied; their company should be agreeable and cheerful; their exercise should be moderate, and suited to their inclination, constitution, and the season; they should avoid crowds, confinement, travelling over rough roads in a carriage, or being exposed to sea-voyages. Riding a horseback should also be practised with great caution, that disagreeable objects may be shunned, and shocks of every kind prevented. For this reason, when riding is judged proper, the woman should be a courageous rider; she should never ride without somebody being in company; the horse should be tame and well trained; the road should be smooth as well as private; and the exercise should be gentle and easy, and never carried the length of fatigue. Women should, with the utmost care, guard against confining the breasts or belly; early recourse should be had to jumps, and they should keep themselves as loose and easy as possible through the whole term of utero-gestation. An open belly is necessary and important in the pregnant state; and this

may be procured by the occasional use of (No. 44.) or (No. 119.) To keep the stomach in good condition, prevents colics and other complaints that may terminate in miscarriage. When the abdomen is pendulous towards the latter months, a gentle support by proper bandage will prove useful; and the woman, when fatigued, should occasionally, through the day, indulge in rest on a bed or couch. See more on these subjects under MIDWIFERY.

Sp. III. *Immoderate Flux of the LOCHIA.*

Menorrhagia lochialis, Sauv. sp. 8. Cul.

Parturition and placenta are followed by an efflux of more or less blood, discharged from the uterus, which, by the immediate evacuation of the large vessels, is allowed to contract itself the more freely, without the danger of an inflammation, which would probably happen in the contraction, if the great vessels were not emptied at the same time: but as the fluids in the smaller vessels cannot be so soon evacuated, or returned into the vena cava, it is necessary, that, after the great discharge is abated, a slow and gradual evacuation should continue, until the womb shall be contracted to near the same size which it had before pregnancy; and to this it attains about the eighteenth or twentieth day after delivery, though the period is different in different women.

When the large vessels are emptied immediately after delivery, the discharge frequently ceases for several hours, until the fluids in the smaller vessels are propelled into the larger, and then begins to flow again, of a paler colour.

The red colour of the lochia commonly continues till the fifth day, though it is always turning more and more serous from the beginning: but, about the fifth day, it flows a clear, or sometimes (though seldom) of a greenish tint; for, the mouths of the vessels growing gradually narrower by the contraction of the uterus, at last allow the serous part only to pass: as for the greenish hue, it is supposed to proceed from a dissolution of the cellular or cribriform membrane or mucus, that surrounded the surface of the placenta or chorion; part of which, being left in the uterus, becomes livid, decays, and, dissolving, mixes with and tinctures the discharge as it passes along.

Though the lochia, as we have already observed, commonly continue till the eighteenth or twentieth day, they are every day diminishing in quantity, and soonest cease in those women who suckle their children, or have had an extraordinary discharge at first; but the colour, quantity, and duration, differ in different women: in some patients, the red colour disappears on the first or second day; and in others, though rarely, it continues more or less to the end of the month: the evacuation in some is very small, in others, exces-

five: in one woman it ceases very soon, in another flows during the whole month: yet all of these patients shall do well. This is the natural state of things with regard to the lochial flux, but it is liable to morbid changes, and sometimes to an excess, of which we now proceed to speak more particularly.

The discharge of the lochia being so different in women of different constitutions, and besides in some manner depending upon the method of management, and the way of life peculiar to the patient, we are not to judge of her situation from the colour, quantity, or duration of them, but from the other symptoms that attend the discharge; and if the woman seems hearty, and in a fair way of recovery, nothing ought to be done with a view to augment or diminish the evacuation. If the discharge be greater than she can bear, it will be attended with all the symptoms of inanition; but as the lochia seldom flow so violently as to destroy the patient of a sudden, she may be supported by proper nourishing diet, assisted by cordial and restorative medicines. Let her, for example, use broths, jellies, and asses' milk; if the pulse is languid and sunk, she may take repeated doses of the *confect. aromat.* with mixtures composed of the cordial waters and volatile spirits: subastringents and opiates frequently administered, with the *cort. cinchonæ* in different forms, and austere wines, are of great service. On the other hand, when the discharge is too small, or hath ceased altogether, the symptoms are more dangerous, and require the contrary method of cure; as will be noticed elsewhere.

Sp. IV. *Immoderate Flow of the MENSES from some Local Disorder.*

Menorrhagia vitiorum, *Cul.*

Menorrhagia ex hysteroptosi, *Sauv.* sp. 5.

Menorrhagia ulcerosa, *Sauv.* sp. 9.

Sp. V. *The Leucorrhœa, Fluor Albus, or Whites.*

Menorrhagia alba, *Cul.*

Leucorrhœa, *Sauv.* G. 276.

Menorrhagia decolor, *Sauv.* sp. 7.

Leucorrhœa Americana, *Sauv.* sp. 5.

Leucorrhœa Indica, *Sauv.* sp. 6.

Leucorrhœa Nabothi, *Sauv.* sp. 9.

Leucorrhœa gravidarum, *Sauv.* sp. 8.

1. *Description.*] The *fluor albus*, female weakness, or *whites*, as it is commonly called, is a disease of the womb and its contiguous parts; from which a pale-coloured greenish or yellow fluid is

discharged, attended with loss of strength, pain in the loins, bad digestion, and a wan, sickly aspect.

2. *Causes.*] The quantity, colour, and consistence of the discharge, chiefly depend upon the time of its duration, the patient's habit of body, and the nature of the cause by which it was produced. Taking cold, strong liquor, immoderate heat and moisture, or violent exercise, are all observed to produce a bad effect, as to its quantity and quality.

Weakly women of lax solids, who have had many children, and long laboured under ill health, are of all the most subject to this disagreeable disease; from which they unfortunately suffer more severe penance than others, as the nicest sensations are often connected with such a delicacy of bodily frame as subjects them to it.

In Holland it is very frequent, and in a manner peculiar to the place, from the dampness of its situation; the surrounding air being so overcharged with moisture as to relax the body, stop perspiration, and throw it upon the bowels or womb: producing in the first a diarrhœa or flux, in the last the *fluor albus*, or female weakness.

The discharge often proceeds from the vessels subservient to menstruation; because, in delicate habits, where those vessels are weak, and consequently remain too long uncontracted, the *fluor albus* sometimes immediately follows the menses, and goes off by degrees as they gradually close. It also comes from mucous glands of the womb, as is particularly evident in very young females of eight or ten years old; in whom, though very rarely, it has been observed, and where it must then necessarily have escaped from those parts, as the uterine vessels are not sufficiently enlarged for its passage at so early a period.

Sometimes, as in women with child, it proceeds from the passage to the womb, and not from the womb itself; which, during pregnancy, is closely sealed up, so that nothing can pass from thence till the time of labour. The application of those instruments called *peffaries*, from the pain and irritation they occasion, are also apt to bring on this discharge. Hence we may conclude, that this disease may happen although the blood be in a pure state. Here the fault seems to belong to the vessels at the part, by which the fluids are changed from their natural qualities.

The *fluor albus* has been supposed to supply the want of the menses: because where the first prevails, the last is generally either irregular or totally wanting; but it might more properly be said, that the presence of the *fluor albus*, which is a preternatural evacuation, occasions the absence of that which is natural; as is evident from the return of the menses after the *fluor albus* has been cured. Indeed, when this discharge appears about the age of thirteen or fourteen, and returns once a month, with symptoms like those of the

menfes, then it may be deemed ftrictly natural, and therefore ought not to be ftopped.

3. *Prognofis.*] The *fluor albus* may be diftinguifhed into two kinds. The firft arifes from a fimple weaknefs, or the relaxation of the folids; which may either be *general* where the whole bodily fyftem is enervated and unftrung; or *partial*, where the womb only is thus affected, in confequence of hard labour, frequent mifcarriages, a fuppreffion or immoderate quantity of the menfes, or a fprain of the back or loins.

In the firft cafe, the difcharge being generally mild, may be fafely taken away. In the fecond, it may proceed from a vitiated or impure blood, where the body, from thence, is loaded with grofs humours, which nature, for her own fecurity and relief, thus endeavours to carry off. In fuch cafes, the difcharge is of a reddifh colour, like that from old ulcerous fores; being fometimes fo fharp as to excoriate the contiguous parts, and occafion a smarting and heat of urine.

A deep-feated, darting pain, with a forcing down, attending fuch a difcharge, is a very dangerous and alarming fign, and indicates an ulceration or cancerous ftate of the womb. This malignant ftate of the difeafe, if of long continuance, is extremely difficult of cure; and difpofes the patient to barrennefs, a bearing down, dropfy, or confumption.

4. *Cure, &c.*] The caufes of thofe two kinds of the difeafe being different, fo they will require a very different method of cure. For this purpofe, in the firft cafe, nothing will be more proper than nourifhing fimple food; fuch as veal broths, jellies, fresh eggs, and milk diet. The acid fruits will alfo be proper; and the patient may take a reftorative, ftrengthening infufion, which will give firmnefs to the body, and affift the weakened fibres of the womb in returning to their natural ftate.

The fame method may be ufed with fuccefs, where the *fluor albus* follows the menfes, as already obferved.

The Tunbridge or Spa waters may be drank at the fame time; and if neceffary, an infufion of green tea, or pure fmith's forge water, may be ufed with a womb-fyringe as an injection twice a day; or the following:

(No. 209.) R Balf. Capaiv. ℥fs.

Mucil. gum. arab. ℥j.

Aquæ fontis ℥viſs. fiat injectio.

Or the *Lotio aluminis* of St. Bartholomew's may be ufed:

(No. 210.) R Aluminis purif. ℥fs.

Aquæ diffillatæ lib. j. fiat lotio.

Dr. Hugh Smith recommends the following topics:

(No. 211.) \mathcal{R} Cort. quercus, \mathfrak{z} j.

Cort. granat.

Flor. balauft. aa \mathfrak{z} ij.

Coq. ex. vin. rub. q. f. ad. colatur. \mathfrak{f} ij.

Adde Alumin. \mathfrak{z} ß

Misce pro fotu, bis die partibus usurpand.

Vel, (No. 212.) \mathcal{R} Cupri vitriol. \mathfrak{g} ß. Solve in

Aq. fontan. \mathfrak{z} ij.

M. ft. injectio omn. nocte cubitum iturus ope siphon. utend.

Should the disease prove uncommonly obstinate, the patient may go into the cold bath every second day; and also drink lime-water with milk, which will expedite the cure, and prevent a relapse. The volatile liniment, (No. 60.) and afterwards a strengthening plaster, may be applied to the small of the back.

By way of caution, the female should wholly abstain from tea; and be removed into a dry clear air; or if she be obliged to remain in one less proper, she may apply the flesh-brush, and wear a flannel shift next her skin. Cold spring-water pumped on the loins, or a blistering plaster applied to the bottom of the spine or back, are both very powerful in their effects, and have sometimes succeeded after other remedies had been tried in vain.

Dr. Hugh Smith recommends the following internal remedies to be used at the same time with the topical applications above stated, (No. 213.) \mathcal{R} Gum. olibani \mathfrak{z} ß.

Sacchari, \mathfrak{z} j. tere simul, dein.

Adde Tinct. cinchonæ \mathfrak{z} ij.

Aq. cinnam. ten. \mathfrak{z} jß.

Tinct. cantharid. \mathfrak{z} j.

M. ft. haust. mane et cubitum iturus sumend.

(No. 214.) \mathcal{R} Extract. cinchonæ \mathfrak{z} ß.

Rubigin. chalyb. ppt. gr. xv.

Spec. aromatic. gr. v.

Syr. croci. q. f. ut ft. bol. hor. xj. matut. et 5ta P.

M. sumend.

Or, the doctor observes, the following bolus may be used for the above, as they nearly answer the same intention:

(No. 215.) \mathcal{R} Aluminis in pulv. trit.

Colcoth. vitriol. aa gr. xv.

Pulv. aromatic.

Pulv. rhabarb. aa gr. iiij.

Syr. bals. q. f. ut ft. Bol. ter die sumend. superbi-
bend. tinct. rosar. rub. haustulum.

In the second sort of the disease, where the discharge is sharp and of long standing, it would be extremely dangerous to suppress it suddenly, either by astringents internally taken, or applied as injections, until the system be restored to a more sound and vigorous condition.

The purging draught (No. 58.) may be taken twice a-week; and in the intervals the following:

(No. 216.) ℞ Calomel. gr. xij.

Pulv. gum. arab. ʒij.

Fiant pulv. No. xij. sumat. j. omni nocte.

After this course has been continued a fortnight or three weeks, she may begin with the strengthening bitter infusion (No. 115.), or some other tonic, in the quantity of a tea-cupful twice a-day, or to a greater extent if the stomach will allow; or the following vegetable astringent remedy from the Pharmacopœia of St. Thomas's may be used, taking care, however, that costiveness be not induced:

(No. 217.) ℞ Cort. quercini ʒij.

Cort. granatorum ʒj.

Cort. cinnam. ʒss.

Contusa coquantur ex aquæ et lactis vacini sing. uncias octo ad medias, et cola. Dosis uncia ter die.

The sort of food and regimen will here be proper as in the first kind of the disease. The patient should abstain from malt liquors, and drink rice-water, in each pint of which half an ounce of gum-arabic has been dissolved; or if she be weak, and of a cold bloated habit of body, a little ginger may be added occasionally.

When she begins to take the bitter infusion, it will be proper to use the Tunbridge or Pyrmont water for common drink; but if those cannot conveniently be had, the *artificial aerated water*, impregnated with iron and fixed air, will make an excellent substitute. If it should render her costive, and occasion head-ach, she may desist; and drink imperial water, or take a little fenna-tea sweetened with manna, till those complaints be removed.

In short, as this is a malady of a most disagreeable kind, which by long continuance or neglect becomes difficult of cure, and often produces an *ulceration of the womb, bearing down, barrenness, a dropsy, or consumption*; it were to be wished that women, on such occasions, would be more attentive to their own safety, by using all possible means, in due time, to prevent those disorders.

Dr. Leake says, *fluor albus* prevails in the autumn more than at any other season of the year, especially when the weather is uncommonly moist and cold. The cure is effected by change of diet, an increased perspiration, and the proper use of Peruvian bark with aromatics. He observed, that several about this time who escaped the disorder, were visited with bad colds, a defluxion on the throat, or a diarrhœa, which were removed by a similar treatment.

As women are sometimes connected with those who do not conscientiously regard their safety, it is a circumstance of the utmost consequence to *distinguish a fresh venereal infection, from the fluor albus, or whites*: for if the first be mistaken for the last, and

and be either neglected or improperly treated, the worst consequences may arise.

The following signs will best inform the patient whether there be occasion for her doubts or not.

A fresh infection, called *gonorrhœa*, is malignant and inflammatory; the *fluor albus* most commonly arises from relaxation and bodily weakness: and therefore the remedies proper in the first disorder would render the last more violent, by locking up and confining the infectious matter.

In the gonorrhœa, the discharge chiefly proceeds from the parts contiguous to the urinary passage, and continues whilst the menses flow; but in the *fluor albus* it is supplied from the cavity of the womb and its passage, and then the menses are seldom regular.

In the gonorrhœa, an itching, inflammation, and heat of urine, are the ore-runners of the discharge; the orifice of the urinary passage is prominent and painful, and the patient is affected with a frequent irritation to make water. In the *fluor albus*, pains in the loins, and loss of strength, attend the discharge; and if any inflammation or heat of urine follow, they happen in a less degree, and only after a long continuance of the discharge, which becoming sharp and acrimonious, excoriates the surrounding parts.

In the gonorrhœa, the discharge suddenly appears without any evident cause; but in the *fluor albus*, it comes on more slowly, and is often produced by irregularities of the menses, frequent abortion, sprains, or long-continued illness.

In the gonorrhœa, the discharge is greenish or yellow, less in quantity, and not attended with the same symptoms of weakness. In the *fluor albus*, it is also often of the same colour, especially in bad habits of body, and after long continuance; but is usually more offensive, and redundant in quantity.

All the other kinds of hemorrhagy enumerated by medical writers, are by Dr. Cullen reckoned to be symptomatic; as,

STOMACACE, *Sauv.* gen. 241. *Lin.* 175. *Vog.* 85. *Sag.* gen. 176.

Species: Scorbutica, Purulenta, &c.

HÆMATEMESIS, *Sauv.* gen. 242. *Lin.* 184. *Vog.* 89. gen. 177.

Species Plethoric Catamenialis, Scorbutica, &c.

HÆMATURIA, *Sauv.* gen. 233. *Lin.* 198. *Vog.* 92. *Sag.* gen. 178.

Species: Purulenta, Calculosa, Hæmorrhoidalis, &c.

The following case of internal hæmorrhage cured by a particular kind of treatment deserves a place here. Dr. Binns, a physician at Liverpool, visited a middle-aged man of a thin habit, labouring under a low feverish affection, much resembling typhus, which, from the attack, continued about six weeks, when a new complaint appeared, namely, a copious *discharge of blood by stool*. During the feverish affection he took a good deal of the decoction of cinchona with diluted vitriolic acid, and the bark also in powder. About ten days before the appearance of blood, the patient being costive, had some calomel and an opening draught, composed of the infusion of senna and tincture of rhubarb; and after this, the quickness of pulse continuing, he took small doses of antimonial wine every day for a week. The day preceding the bloody stools, he began to take a stomachic vinous tincture, with some tincture of bark, and vitriolic acid. After the hæmorrhage came on, the discharges by stool were very copious, and so highly tinged that they appeared to be chiefly blood. The patient vomited several times, but no blood came upward. He was so much sunk by the discharges, and the previous fever, as to render it difficult for him to support himself on the stool, and the pulse was extremely weak.

“In this situation,” says Dr. Binns, “I did not dare to recommend bleeding. A quart of the tincture of roses, well acidulated with vitriolic acid was ordered, and he took a tea-cupful of it cold very often; he was allowed to take nothing but what was cooling and cold. The stools, notwithstanding, continued to be frequent, very bloody, and sometimes he voided nearly, if not quite, two quarts at a time; the pulse sank so as to be scarcely perceptible, and the patient became so pale that, I think, I never saw a person alive, who might more properly be said to be *exsanguis*. The late alderman Richard Gerard (Dr. Gerard’s father), an old and respectable practitioner, who attended with me, was alarmed as well as myself; for it appeared that, without some more efficacious means, it was impossible to save the patient. In this critical situation it occurred to me, that though the patient had vomited several times, yet as no blood was thrown up, and what was voided by stool was fresh-coloured, the disease was probably seated in the large intestines; that this might be the reason of the medicine’s failure, and that a similar one injected by clyster might possibly be more efficacious, and if thrown up nearly cold, might act as cold injections in uterine hæmorrhage. I communicated my reflections on this subject to my friend in consultation, and asked whether he thought we might venture to give a cold clyster, containing some powerful astringent and vitriolic acid

He approved of the proposal, saying that any thing which afforded the least prospect of success ought to be tried in so desperate a case; the following form was therefore agreed on:

(No. 218.) ℞ Rad. tormentillæ ℥iſs.

Coque in aq. font. ℥xiv. ad ℥x. colaturæ, cui adde,
Mucil. gum. Arab. ℥ij.

Sp. vitrioli fort. gutt. viij. m. f. enema.

“ This was directed to be given much cooler than usual—*nearly cold*. As it did not produce any inconvenience, it was repeated the same day. The day following we had an account that the stools had been less frequent, and that they were become blacker, which I considered as a good sign, indicating a cessation, or at least a diminution of the hæmorrhage. The tincture of roses and the clysters were continued, and in a few days the blood wholly disappeared; but it was several months before he fully recovered his strength. About nine years after he was seized with a consumption of the lungs, of which he died; but in the mean time I enquired whether he had laboured under any complaints of the belly, which might be ascribed to the vitriolic acid; and was informed that none such had occurred. I therefore ventured afterward to pursue a similar plan, and have generally succeeded. I ordered eighty drops of acid. vitriol. dilut. of the last Lond. Pharm. in about fourteen ounces of a decoction of camomile flowers for a clyster, which was repeated five or six times a-day, for about four days, in a man labouring under this hæmorrhage, who had some insanity upon him. He at the same time took the acid freely by the mouth. I afterwards discovered that an acid had been used of the strength of elixir vitrioli acidum of the old Lond. Pharmacop. and that about the time the bleeding ceased he had some griping; but it went off presently on giving him some tinct. opii. in aq. menth. pip. It ought not however to be concealed, that since he discontinued the acid he has had occasional returns of the griping; but as it is only temporary, and at other times he remains perfectly well for several weeks, and the stools are quite natural, I think it can hardly be ascribed to the acid. In order more certainly to learn the effect of the vitriolic acid in clysters, a few times of late I administered nothing but that acid, and a decoction of camomile flowers. I ordered this decoction chiefly as a vehicle, because it is what we commonly use in the dispensary, in place of the common decoction for clysters, and not from much expectation of its styptic power, though it has been recommended in this disease by Lieutaud: it may possibly be of some service, in retarding the putrid tendency of the extravasated blood. Whether the acid is as effectual, as when the tormentil is united with it, I am doubtful; yet in the above case, in which it was necessary to continue the means for four days before the hæmorrhage entirely ceased, the affection might perhaps be pro-

tracted by the man's state of mind, which rendered him often restless. If a case should be so obstinate as to resist the usual method of cure, in conjunction with the means here recommended, and should therefore seem to require an increase of the quantity of vitriolic acid in the clysters, I have thought it probably might be done with less danger in the form of alum; but no case has occurred to me of late wherein it was necessary to try it. Although in these intestinal hæmorrhages I have succeeded beyond my expectation, since I have been in the practice of recommending the injection of clysters, yet I would not wish you to understand that I neglect all other means; but, as I am not intending to give a dissertation on this disease, but merely a few rude hints, it will not be requisite to enter more fully into the subject. Before I conclude, I wish however to remark, that I generally endeavour to adapt the clysters to the nature of the attendant complaints; for example, about seven months ago, I was called to a child three years and a half old, labouring under the confluent small-pox, with considerable discharges of bloody stool, I accordingly varied the clyster to the following form:

(No. 219.) *R* Decoct. cinchonæ ℥ij.

Tinct. cinchonæ ʒj.

Mucil. Arab. gum. ʒj.

Acid. vitriol. dilut. gutt. xvj.

Misce fiat enema.

“ It was directed to be given nearly cold, and repeated every four hours: at first it seemed to produce but little effect; on enquiry, I found it had been given warmer than I intended; it was therefore afterward exhibited without warming—of the same temperature as the patient's room, which was kept pretty cool on account of the primary disease; yet there was a small fire, as it was cold weather. The blood then soon ceased to flow; and did not return, though the child continued to have loose stools for two days, when it died of a very putrid small-pox. It is not improbable that astringent clysters may be serviceable in excessive bleeding from internal piles; but I am clear that none of the cases which I have treated in the way above mentioned was of this kind, but a hæmorrhage higher up in the intestines. In case of piles, the clyster does not need to be more than two or three ounces, but yet it ought to be increased in proportion to the supposed distance of the seat of the disease; perhaps, sometimes, to twenty ounces or more. In some cases it may even be necessary to use a clyster-syringe, by which the fluid may be propelled with greater force than in the ordinary way, and therefore be more likely to reach a very distant part. Care ought always to be taken, if possible, to prevent the speedy return of the clyster. It may appear negligent in me not to have ascertained more accurately the temperature of the clysters; but

it could not well have been done, unless I could have attended the administration of them, as with us they are generally given by nurses, or old women, incapable of using a thermometer; but on some future occasion I shall probably do it. As I have hitherto discovered no inconvenience from their coldness, I should not hesitate in very urgent cases, and in warm weather, to employ means for reducing the heat below the temperature of the atmosphere; yet it is probable that in some constitutions such a degree of cold might induce colic. Cold medicines and drink have undoubtedly considerable effect in suppressing hæmorrhages of the stomach, and I conceive that in the intestines, unaccustomed to any thing cold, cold clysters must have more considerable effect; and perhaps not only in the part into which the fluid is injected, but it may probably produce some effect upon a hæmorrhage in the contiguous intestines, in the same manner as cold applied to the back or abdomen of a patient, labouring under uterine hæmorrhage, will frequently suppress the discharge; yet not so effectually as when it comes into contact with the extremities of the bleeding vessels. Some perhaps may ascribe the whole effect to the coldness of the injection, and suppose that cold water may answer as well as the most artful impregnation; this I think is clearly confuted by the use of styptic applications, not only to external hæmorrhages, but to those of the stomach and uterus.

“ It may possibly be supposed that no fatal or bad consequence would have arisen from the hæmorrhages which I have been so solicitous to restrain, as the late Dr. Hunter recommended to leave all internal hæmorrhages to nature, and said that life is safe, if the patient is permitted to faint. I shall oppose to this doctrine only one observation of Van Swieten—‘*Memini me aliquoties vidisse, post diurnas & molestissimas cardialgias, ingentem copiam sanguinis absque ullo dolore per anum excretam fuisse; sed brevi sequebatur summa debilitas, animi deliquium, & mors.*’ ”

To the foregoing facts we will add that of a clergyman at Gloucester, who was rescued from the consequences of a violent hæmorrhage from the intestines by Dr. Wall, who prescribed *ceruse* in doses of five or six grains. This remedy was given to some extent, without any of the deleterious effects of lead taking place.

A far safer, and, we apprehend, equally suitable practice, was adopted by a London practitioner in the case of a young lady of a debilitated habit, who had a considerable appearance of black blood in all her stools. The medicine administered was the *tinctura ferri muriati*, in as large doses as the case seemed to require. The event was, that the stools soon put on the natural appearance, and she was cured.

ORDER V. PROFLUVIA.

GENUS XL. CATARRHUS.

The CATARRH.

- Catarrhus, *Sauv.* gen. 186. *Vog.* 98. *Sag.* gen. 145.
 Coryza, *Lin.* 174. *Vog.* 100. *Sag.* gen. 196.
 Rheuma, *Sauv.* gen. 142.
 Tussis, *Sauv.* gen. 142. *Lin.* 155. *Vog.* 205. *Sag.* gen. 245.
 255. *Junck.* 30.
 Tussis catarrhalis et rheumatica, *Hoffm.* III. 109.

Sp. I. *Catarrh* from COLD.

- Catarrhus a frigore, *Cul.*
 Catarrhus benignus, *Sauv.* sp. 1.
 Catarrhus pectoris, *Sauv.* sp. 1.
 Coryza catarrhalis, *Sauv.* sp. 1.
 Coryza phleginatorrhagia, *Sauv.* sp. 2. *Salmuth.* Obs. cent. 1.
 37. *Junck.* 28. *Morgagn.* de sed. xiv. 21.
 Coryza febricosa, *Sauv.* sp. 6.
 Tussis catarrhalis, *Sauv.* sp. 1. *N. Rosen.* Diff. apud *Haller*,
 Disput. Pract. tom. II.
 Rheuma catarrhale, *Sauv.* sp. 1.
 Amphimerina catarrhalis, *Sauv.* sp. 2.
 Amphimerina tussiculosa, *Sauv.* sp. 13.
 Cephalalgia catarrhalis, *Sauv.* sp. 10.

There are several symptomatic species: as, Catarrhus Ruberolofus; Tussis Variolosa, Verminosa, Calculosa, Phthisica, Hysterica, a dentitione, Gravidarum, Metallicolarum, &c.

1. *Description.*] The catarrh is an increased excretion of mucus from the mucous membrane of the nose, fauces, and bronchiæ, attended with pyrexia.

Practical writers and nosologists have distinguished the disease by different appellations, according as it happens to affect different parts of the mucous membrane, one part more or less than the other: but Dr. Cullen is of opinion that the disease in those different parts is always of the same nature, and proceeds from the same cause in the one as in the other. Very commonly indeed those different parts are affected at the same time; and therefore there is little room for the distinction mentioned. The disease has been frequently treated of under the title of *tussis* or *cough*; and a cough, indeed, always attends the chief form of

catarrh, that is, the increased excretion from the bronchiæ; but as it is often also a symptom of many other affections, which are very different from one another, it is improperly used as a generic title.

The disease generally begins with some difficulty of breathing through the nose, and with a sense of some fullness stopping up that passage. This again is often attended with some dull pain and a sense of weight in the forehead, as well as a stiffness in the motion of the eyes. These feelings, sometimes at their very first beginning, and always soon after, are attended with the distillation of a thin fluid from the nose, and sometimes from the eyes; and these fluids are often found to be somewhat acrid, both by their taste and by their fretting the parts over which they pass. These symptoms constitute the coryza and gravedo of authors, and are commonly attended with a sense of lassitude over the whole body. Sometimes cold shiverings are felt; at least the body is more sensible than usual to the coldness of the air; and with all this the pulse is more frequent than ordinary, especially in the evenings.

These symptoms have seldom continued long before they are accompanied with some hoarseness, and a sense of roughness and foreness in the trachea, with some difficulty of breathing, expressed by a sense of straightness in the chest, and with a cough which seems to arise from some irritation felt at the glottis. This cough is generally at first dry and painful, occasioning pains about the chest, and more especially in the breast; sometimes, together with these symptoms, pains resembling those of the rheumatism are felt in several parts of the body, particularly about the neck and head. With all these symptoms, the appetite is impaired, some thirst arises, and a feverish lassitude is felt all over the body. These symptoms mark the height and violence of the disease; but commonly it does not continue long. By degrees the cough comes to be attended with a more copious excretion of mucus; which is at first thin, but gradually becoming thicker, is brought up with less frequent and less laborious coughing. The hoarseness and foreness of the trachea are also relieved or removed; and the febrile symptoms abating, the expectoration becomes again less, and the cough less frequent, till at length they cease altogether.

Such is generally the course of this disease, neither tedious nor dangerous; but it is sometimes in both respects otherwise. The body affected with catarrh seems to be more than usually liable to be affected by cold air; and upon exposure of the body to fresh cold, the disease, which seemed to be yielding, is often brought back with greater violence than before, and is rendered not only more tedious than otherwise it would be, but also more dangerous by the supervening of other diseases. Some degree

of the cynanche tonsillaris often accompanies the catarrh; and when this is aggravated by a fresh application of cold, the cynanche also becomes more violent and dangerous from the cough, which is present at the same time. When a catarrh has been occasioned by a violent cause, when it has been aggravated by improper management, and especially when it has been rendered more violent by fresh and repeated applications of cold, it often passes into a pneumonic inflammation, attended with the utmost danger.

Unless, however, such accidents as those happen, a catarrh, in sound persons not far advanced in life, is always a slight and safe disease: but, in persons of a phthisical disposition, a catarrh may readily produce an hæmoptysis, or perhaps form tubercles in the lungs; and still more readily in persons who have tubercles already formed in the lungs, an accidental catarrh may occasion the inflammation of these tubercles, and in consequence produce a phthisis pulmonalis.

In elderly persons, a catarrh sometimes proves a dangerous disease. Many persons, as they advance in life, and especially after they have arrived at old age, have the natural mucus of the lungs poured out in greater quantity, and requiring a frequent expectoration. If, therefore, a catarrh happen to such persons, and increase the afflux of fluids to the lungs, with some degree of inflammation, it may produce the peripneumonia notha, or more properly chronic catarrh, a disease continuing often for many years, or at least regularly every winter; which in such cases is very often fatal.

3. *Causes, &c.*] The proximate cause of catarrh seems to be an increased afflux of fluids to the mucous membrane of the nose, fauces, and bronchiæ, along with some degree of inflammation affecting the same. The latter circumstance is confirmed by this, that, in the case of catarrh, the blood drawn from a vein commonly exhibits the same inflammatory crust which appears in the case of phlegmasiæ. The remote cause of catarrh is most commonly cold applied to the body. This application of cold producing catarrh is generally evident and observed; and Dr. Cullen is of opinion that it would always be so, were men acquainted with and attentive to the circumstances which determine cold to act upon the body.

The application of cold which occasions a catarrh, probably operates by stopping the perspiration usually made by the skin, and which is therefore determined to the mucous membrane of the parts above mentioned. As a part of the weight which the body daily loses by insensible evacuation, is owing to an exhalation from the lungs, there is probably a connection between this exhalation and the cutaneous perspiration, so that the one may be increased according as the other is diminished; and therefore we

may understand how the diminution of cutaneous perspiration, by the application of cold, may increase the afflux of fluids to the lungs, and thereby produce a catarrh.

Dr. Cullen remarks, that there are some observations of Dr. James Keil which may render this matter doubtful; but says, there is a fallacy in those observations. The evident effects of cold in producing coryza, leave the matter, in general, without doubt; and there are several other observations which shew a connection between the lungs and the surface of the body.

Whether from the suppression of perspiration, a catarrh be produced merely by an increased afflux of fluids, or whether in addition to this the matter of perspiration be at the same time determined to the mucous glands, and there excites a particular irritation, may be uncertain; but Dr. Cullen thinks the latter supposition is most probable.

Although in the case of a common catarrh, which is in many instances sporadic, it may be doubtful whether any morbid matter be applied to the mucous glands; we are, however, certain, that the symptoms of a catarrh do frequently depend upon such matter being applied to these glands; as appears from the case of measles, chincough, and especially from the frequent occurrence of contagious and epidemical catarrh.

The phenomena of contagious catarrhs have been much the same with those of the others; and the disease has always been particularly remarkable for this, that it has been the most widely and generally spreading epidemic known. It has seldom appeared in any one country of Europe, without appearing successively in almost every different part of it; and, in some instances, it has been also transferred to America, and has been spread there in like manner, so far as we have had opportunities of being informed.

The catarrh from contagion appears with nearly the same symptoms as those above mentioned. It seems often to come on in consequence of the application of cold. And indeed catarrh from cold and contagion are in every respect so similar, that when this epidemic rages, it is impossible to determine in a person having symptoms of catarrh after exposure to cold, whether the disease proceeds from the one cause or the other. In most instances, however, catarrh from contagion comes on with more cold shivering than the catarrh arising from cold alone; and the former does also not only sooner shew febrile symptoms, but to a more considerable degree. Accordingly, it more speedily runs its course, which is commonly finished in a few days. It sometimes ends by a spontaneous sweat; and this, in some persons, produces a miliar eruption. It is, however, the febrile state of this disease especially that is finished in a few days; for the cough and other catarrhal symptoms do frequently continue longer, and often when they appear to be going off they are renewed by any fresh application of cold.

3. *Prognosis.*] Considering the number of persons who are affected with catarrh, of either the one species or the other, and escape from it quickly without any hurt, it may be allowed to be a disease commonly free from danger; but it is not always to be treated as such, for in some persons it is accompanied with pneumonic inflammation. In the phthisically disposed, it often accelerates the coming-on of phthisis; and in elderly persons it often proves fatal in the manner we have explained above, viz. by degenerating into its chronic state. But though chronic catarrh be often the termination of that species which arises from cold, we have not, in any case, observed it to arise as a consequence of a catarrh from contagion. This species of catarrh, however, is not unfrequently followed by phthisis; or rather where a phthisical tendency before existed, the affection has been begun and its progress accelerated from this cause.

3. *Cure.*] The cure of catarrh is nearly the same, whether it proceeds from cold or contagion; only in the latter case remedies are commonly more necessary than in the former. In the cases of a moderate disease, it is commonly sufficient to avoid cold, or to abstain from animal food for some days. In some cases, where the febrile symptoms are considerable, it is proper for that length of time to lie a-bed, and, by taking frequently some mild and diluent drink, a little warmed, to promote a very gentle sweat; and after this to take care to return very gradually only to the use of the free air. When the disease is more violent, not only the antiphlogistic regimen, exactly observed, but various remedies also, become necessary. To take off the phlogistic diathesis which always attends this disease, blood-letting, more or less, according as the symptoms shall require, is the proper remedy. After blood-letting, for restoring the determination of the fluids to the surface of the body, and at the same time for expediting the secretion of mucus in the lungs, which may take off the inflammation of its membrane, the vomit (No. 1.) is the most effectual means. For the last-mentioned purpose, some suppose that squills, gum-ammoniac, the volatile alkali, and some medicines of that class, might be useful; but being of a stimulant quality, their efficacy has never been found considerable; and if squills have ever been very useful, it seems to have been rather by their emetic than by their expectorant powers. When the inflammatory affections of the lungs seem to be considerable, it is proper, besides blood-letting, to apply blisters to the back or sides.

As a cough is often the most troublesome circumstance of this disease, so demulcents may be employed to alleviate it. (See No. 112, 113, and 114.) But after the inflammatory symptoms are much abated, if the cough still remains, opiates afford the most effectual means of relieving it; and, in the circumstances just now

mentioned, they may be very safely employed. The following is directed by Dr. Saunders:

(No. 220.) R Tinct. opii gutt xx.

Aq. Cinnam. ℥j.

Syr. papav. errat. ℥ss. M.

Sit Haustus, nocte dormituro dandus.

Very considerable advantage is often derived from employing opiates in such a manner as to act more immediately on the head of the wind-pipe. For this purpose, opium may often be advantageously conjoined with demulcents, melting slowly in the mouth. And perhaps no form is more convenient, or answers the purpose better, than the *trochisci glycyrrhizæ cum opio* of the Edinburgh Pharmacopœia, where purified opium is combined with extract of liquorice, gum-arabic, and other demulcents to the extent of about a grain in a dram of the composition. After the inflammatory and febrile states of this disease are very much gone, the most effectual means of discharging all remains of the catarrhal affection is by some exercise of gestation diligently employed. Dr. Fordyce's observations on the treatment of catarrh, are so peculiarly judicious, that we think it necessary to give them here at large. He says the cure is performed,

1. By weakening the system, by evacuation, according to the general inflammation, or the strength of the patient.

If therefore there should be considerable *inflammatory diathesis*, and especially if the breast be the part affected, we are to bleed from ℥xii. to xvi. and repeat the operation if the hardness of the pulse, &c. continue: but if the inflammatory symptoms be not great, and do not affect the whole habit, it is unnecessary; and when the patient is weak, and the secretion thin, and in great quantity, it is even sometimes hurtful.

Purging also diminishes the inflammation, and may be likewise used when the secretion is too great.

(No. 221.) R Tamarind. ℥ij.

Coque in Aq. Font. ℥vj. per v. minut.

Colatur. adde,

Sal. Cathart. Glaub. ℥vj. ad x.

Vel, Polychrest. Rupell. ℥iiij. ad vj.

Mann. ℥ß.

Tinc. Sen. ℥ij.

Ft. Potio Purgans. Capt. mane ij. vicibus, intervallo horæ ss.

When the *inflammatory diathesis* is not very considerable, or where it has been diminished by bleeding, after the purgative in the evening an opiate may be used.

(No. 222.) R Aq. Cinnam. ℥jß.

Sp. Cinnam. ℥ij.

Syr. Diacod. ℥ß. ad ℥j.

Antim. Tart. gr. $\frac{1}{2}$ ad gr. ss.

Ft. Haust. hora somni sumendus.

If the inflammatory symptoms should continue, or the secretion be still too great, the purgative, and, when proper, the opiate, may be repeated after a day's interval.

2. By taking off the inflammation when it occupies the breast, especially if there be any acute pain, by means of blisters applied as near to the part principally affected as possible; or when the throat is sore, or there is hoarseness, by using demulcents.

3. By promoting the secretion where it is not sufficient. (Vide PÉRIPNEUMONIA and ANGINA.)

4. By giving mucilaginous medicines to cover the mucous membrane and allay the cough.

(No. 223.) ℞ Sem. Lini ʒʒ.

Aq. bull. ʒiv.

Infunde simul per horam. Dein adde

Aq. bull. ʒxx.

Syr. Limon. ʒij.

Colaturæ bibat. cyath. calid. frequenter.

(No. 224.) ℞ Aq. Puleg. ʒjʒ.

Sperm. Ceti ʒʒ.

Vitelli Ovi q. s.

Syr. Tolut. ʒiij.

Ft. Haust. quarâ quâque horâ sumendus.

When the complaint is slight, these mucilaginous medicines are often sufficient for the cure.

5. By restoring the circulation to the skin by relaxants (No. 27, or 90.) which are useful in all cases; and where the inflammatory symptoms are much diminished, or have not come on, opiates are added to them with advantage.

(No. 225.) ℞ Opii gr. iij.

Extr. Gent. gr. x.

Antim. Tart. gr. ij.

Ft. Pil. viij. Cap. unam ter indies.

When the inflammation is great, the patient should be confined to vegetable farinaceous food, and the drink should be mucilaginous warm infusions, or decoctions, acidulated; and he ought to be confined to a room moderately warm: but in slighter cases this is not necessary.

Nothing contributes more to the cure than avoiding exposure to cold, especially in those circumstances where it has the greatest effect on the system; and this precaution is particularly necessary in those naturally liable to the disease, or where it hath continued long, or when there have been frequent relapses.

If it be drawn out to a great length, and the secretion hath weakened the patient, strengthening remedies are to be employed; and riding on horseback in a pure dry air is frequently of service; but these are only to be practised when there is little or no inflamma-

tion. Resinous pectoral medicines have sometimes been given here also with success.

(No. 226.) R Gum. Myrrh. Pulv. ʒj.

Ft. Pulvis ter die fumendus.

Besides the remedies above mentioned, Dr. Mudge, in a treatise on this disease, recommends the steam of warm water as a most efficacious and safe remedy for a catarrh, and which indeed he seems to consider as little less than *infallible*. The method of breathing in these steams is very simple, but he gives a caution to people in health, who may accidentally see his machine, not to make the experiment of breathing through cold water with it, or they will be almost certain of catching a severe cold. His directions for those troubled with the catarrh are as follow :

“ In the evening, a little before bed-time, the patient, if of adult age, is to take three drachms, or as many tea-spoonfuls, of elixir paregoricum, in a glass of water: if the subject be younger, for instance under five years old, one tea-spoonful; or within that and ten years, two. About three quarters of an hour after, the patient should go to bed, and being covered warm, the inhaler three parts filled with water nearly boiling (which, from the coldness of the metal, and the time it ordinarily takes before it is to be used by the patient, will be of a proper degree of warmth), and being wrapped up in a napkin, but so that the valve in the cover is not obstructed by it, is to be placed at the arm-pit, and the bed-clothes being drawn up and over it close to the throat, the tube is to be applied to the mouth, and the patient should inspire and expire through it for about twenty minutes or half an hour.

“ It is very evident, as the whole act of respiration is performed through the machine, that in inspiration the lungs will be filled with air which will be hot, and loaded with vapour, by passing through the body of water; and in expiration, all that was contained in the lungs will, by mixing with the steam on the surface of the water, be forced through the valve in the cover, and settle on the surface of the body under the bed-clothes.

“ The great use of this particular construction of the inhaler is this, First, as there is no necessity, at the end of every inspiration, to remove the tube from the mouth, in order to expire from the lungs the vapour which had been received into them, this machine may therefore be used with as much ease by children as older people. And, secondly, as a feverish habit frequently accompanies the disorder, the valve in that respect also is of the utmost importance: for a sweat, or at least a free perspiration, not only relieves the patient from the restless anxiety of a hot, dry, and sometimes parched skin, but is also, of all evacuations, the most eligible for removing the fever; and it will be generally found, that, after the inhaler so constructed has been used a few minutes, the warm va-

pour under the clothes will, by settling on the trunk, produce a sweat, which will gradually extend itself to the legs and feet.

“ In a catarrhus fever, or any feverish habit attending this cough, it would be proper to take a draught of warm thin whey a few minutes before the inhaler be used; and after the process is over, the sweat which it has produced may be continued by occasional small draughts of weak warm whey or barley-water. The sweating is by no means so necessary to the cure of the catarrhus cough, as that the success of the inhaler against that complaint at all depends upon it; yet I cannot help once more remarking, that when this disorder happens to be accompanied with a feverish habit, the advantages of this particular construction will be very important.

“ After this respiratory process is over, the patient usually passes the night without the least interruption from the cough, and feels no farther molestation from it than once or twice in the morning to throw off the trifling leakage which, unperceived, had dripped into the bronchiæ and vesicles during the night; the thinner parts of which being evaporated, what remains is soon got rid of with a very gentle effort.

“ I cannot, however, take leave of this part of my subject without pointedly observing, that if the patient means not to be disappointed by my assurances or his own expectations, it is essentially necessary that the following remarks, with regard to the time and manner of using this process, should be strictly attended to.

“ *First*, That as tender valetudinary people are but too well acquainted with the first notices of the disorder, the remedy must, or ought to be, used the same evening; which will, in an ordinary seizure, be attended with an immediate cure: but if the soreness of the respiratory organs, or the petulance of the cough, shew the cold which has been contracted to have been very severe, the inhaler, without the opiate, should be again repeated for the same time the next morning.

“ *Secondly*, If the use of the inhaler, &c. be delayed till the second night, it will be always right to repeat it again the next morning without the opiate, but with it if the seizure has been violent.

“ *Lastly*, If the cough be of some days' standing, it will be always necessary to employ both parts of the process at night and the succeeding morning, as the first simple inflammatory mischief is now most probably aggravated by an additional one of a chronic tendency.

“ But if, through the want of a timely application, or a total neglect of this or any other remedy, the cough should continue to harass the patient, it is, particularly in delicate and tender consti-

tutions, of the utmost consequence to attempt the removal of it as soon as possible, before any floating acrimony in the constitution (from the perpetual irritation) receives an habitual determination to an organ so essential to life as the lungs.

“ If the patient expectorate with ease and freedom a thick and well-digested inoffensive phlegm, there is generally but little doubt of his spitting off the disorder, with common care, in a few days; and till that be accomplished, a proper dose of elixir paregoricum for a few successive nights will be found very useful in suppressing the fatiguing irritation and ineffectual cough, occasioned by a matter which, dripping in the early state of the disease into the bronchiæ during the night, is commonly at that time too thin to be discharged by those convulsive efforts.

“ If, however, notwithstanding a free and copious expectoration, the cough should still continue, and the discharge, instead of removing the complaint, should itself, by becoming a disease, be a greater expence than the constitution can well support, it is possible that a tender patient may spit off his life, through a weak, relaxed pair of lungs, without the least appearance of purulence, or any suspicion of suppuration. In those circumstances, besides, as was mentioned before, increasing the general perspiration, by the salutary friction of a flannel waistcoat, change of situation, and more especially long journeys on horseback, conducted as much as possible through a thin, sharp, dry air, will seldom fail of removing the complaint.

“ But, on the contrary, if the cough should, at the same time that it is petulant and fatiguing to the breast, continue dry, husky, and without expectoration, provided there be reason to hope that no tubercles are forming, or yet actually formed, there is not perhaps a more efficacious remedy for it than half a drachm of gum ammoniacum, with eighteen or twenty drops of liquid laudanum, made into pills, and taken at bed-time, and occasionally repeated. This excellent remedy Sir John Pringle did me the honour to communicate to me; and I have accordingly found it, in a great many instances, amazingly successful, and generally very expeditiously so; for it seldom fails to produce an expectoration, and to abate the distressing fatigue of the cough. In those circumstances I have likewise found the common remedy of *ʒss* or *ʒij.* of *bals. sulph. anisat.* taken twice a-day, in a little powdered sugar or any other vehicle, a very efficacious one. I have also, many times, known a salutary revulsion made from the lungs by the simple application of a large plaster, about five or six inches diameter, of Burgundy pitch between the shoulders; for the perspirable matter, which is locked up under it, becomes so sharp and acrid, that in a few days it seldom fails to produce a very considerable itching, some little tendency to inflammation, and very frequently a great

number of boils. This application should be continued (the plaster being occasionally changed), for three weeks or a month, or longer, if the complaint be not so soon removed.

“And here I cannot help observing, that though seemingly a trifling, it is however by no means an useless caution to the tender patient, not to expose his shoulders in bed, and during the night, to the cold; but when he lies down to take care they be kept warm, by drawing the bed-clothes up close to his back and neck.

“If, however, notwithstanding these and other means, the cough, continuing dry or unattended with a proper expectoration, should persevere in harassing the patient; if, at last, it should produce, together with a soreness, shooting pains through the breast and between the shoulders, attended also with shortness of the breath; and if, added to this, flushes of the cheeks after meals, scalding in the hands and feet, and other symptoms of a hectic, should accompany the disorder; there is certainly no time to be lost, as there is the greatest reason to apprehend that some acrimony in the habit is determined to the tender substance of the lungs, and that consequently tubercular suppurations will follow. In this critical and dangerous situation, I think I can venture to say from long experience, that, accompanied with change of air and occasional bleedings, the patient will find his greatest security in a drain from a large scapulary issue, assisted by diet of asses' milk and vegetables.”

Sp. II. *Catarrh* from CONTAGION.

Catarrhus a contagio, Cul.

Catarrhus epidemicus, Sauv. sp. 3.

Rheuma epidemicum, Sauv. sp. 2.

Synocha catarrhalis, Sauv. sp. 5.

We have thus far treated of catarrh, chiefly as it appears in *accidental cases*: but its most serious form has not yet been fully considered. We therefore proceed to lay before the reader some remarks on the contagious catarrh or INFLUENZA that appeared in the spring of the year 1782, from a paper by Dr. Hamilton, published in the memoirs of the Medical Society of London, which will serve to illustrate the nature of this malady.

Some appearances of a catarrhal affection resembling the influenza, occurred afterwards in this country. Of these the periodical publications on medical subjects give detailed accounts; but as the symptoms and treatment bore a general resemblance to the disease of 1782, we think it sufficient to confine ourselves to Dr. Hamilton's statement.

After some local and meteorological descriptions, not immaterial to those who wish to trace the phenomena of this disease with critical accuracy (for these see vol. II. p. 422, of the Memoirs of

the Medical Society of London), Dr. Hamilton describes the disease in the following way.

1. *Symptoms.*] “As to the symptoms with which the influenza was attended, they were various in various persons, according to the state of the habit at the time of the attack. The first victims of its fury were the soldiers; and the first symptoms I perceived, were a great cough, straightness about the breast, nostrils considerably distended. The patients generally complained of a stoppage in the trachea; giving them the sensation of a ball lodged there. A coryza, or running of a thin acrid mucus from the nose, always took place, so as to excoriate the upper lip, and vellicate the Schneiderian membrane. A violent sneezing; a pain of the head, much increased by this last symptom, and most severe in the course of the frontal sinuses. A foreness over the eyes, chiefly about the eye-brows: which they said was seated in the bone. This rendered the eyes stiff, and painful to be opened; nor could they bear a strong light. A rheum also distilled from them, not unlike what we see in the measles. Universal pains over the body; in most only a slight fever; in others it ran very high, with a considerable acceleration of the pulse. Faintness; some, though no great degree of thirst; the pain of the breast seldom felt but on attempting to cough. Then it resembled the pricking of pins; but it was seldom or never felt so low down as the cartilago ensiformis. The throat and mouth burnt with heat; with an uncommon smarting over the fauces. These and the tongue were dry, and somewhat parched. In two patients I remember a parched tongue was present to a great degree; here the thirst was greater. Some bled at the nose; and one of my patients had abscesses formed in both his ears, which burst, and continued to discharge for some weeks after. A diarrhoea was not a common symptom; yet I found it in several. Appetite in many was impaired; a nausea in several cases took place. Little sleep; and this little for the most part broken and disturbed with incoherent dreams. Pulse by no means hard. In some, hoarseness and frequent hawking up of mucus; in others, little or none.

“The heat that succeeded the cold, which more or less marks every febrile paroxysm, sometimes went so far as to be followed by perspiration. In many of my patients this did not happen; the skin remained dry. I seldom found the belly costive; the face sometimes swelled, and the eyes appeared sunk in it, as we often observe in the erysipelas; weakness of the joints of the knees on motion, and a great prostration of strength.

“In the neighbourhood of Stamfordham, my correspondent says, and about the neighbourhood of Newcastle-on-Tyne, it was accompanied with colic pains, and cramps in the region of the abdomen and stomach: and some there also had a purging; some had ulcers in the throat and fauces; but such as I had occasion to

observe, were very slight. This was rather a rare occurrence. Many had a slight vertigo; but few of my patients had delirium, though I have heard of its being found frequently in the practice of others. Though a great faintness and debility took place commonly, yet fainting fits, as mentioned by some, except in one patient, and that after V.S. seldom or never happened among my patients.

“ Fits resembling an ague have been mentioned as a concomitant of the disease; especially in the more marshy parts of the island. I doubt not of their existence; and that the influenza was frequently accompanied with a remittent fever; while in the more dry and open situations it would partake more of peripneumony. Huxham found this the case. ‘ I well remember,’ says he, ‘ that the catarrhal fever which spread through all Europe, under the name of Influenza, in the spring 1743, frequently became pleuritic and peripneumonic; and as frequently, after two or three days, ran into a quotidian or tertian; the difference of the constitutions of the patients thus altering the nature and form of the disease.’

“ In the villages where my practice lay, I do not remember to have met with any efflorescences on the skin. I find this was a symptom observed during the epidemic at Bath, as well as a redness and foreness of the throat; from whence Dr. Falconer imagines that there is a similarity between it and the scarlet fever, as described by Dr. Withering of Birmingham. A surgeon in Beccles informed me, some of his patients had not only a foul tongue, but ulcers on the tonsils. He mentioned none that had red spots on the skin.

2. *Persons most liable to the contagion.*] “ With regard to the age of those most liable to the disease among my patients, I think the middle age felt it most, *ceteris paribus*. I mean from sixteen to forty-five or so; but few of any age, sex, or temperament, escaped it. When I speak thus, I am to be understood of those in good health before its attack; for with regard to people in general, the infirm, the valetudinarian, and if old, the more in proportion suffered most.

“ I had many opportunities of observing the influence of the weather, in rendering it more violent, in a house where the husband, wife, and three daughters, were ill at once. The wife was by much the most severely handled; next to her the husband.— They kept a public-house and brewery; to the latter of which they gave more attention than the daughters, whose employment consisted in waiting on their customers within doors.

“ A boy of about twelve years of age, of a very stirring disposition, suffered severely; yet escaped the disease, though the rest of the family had been ill for some time, till after bathing with other boys in the river, and remaining there longer than prudent, when

he was seized next day with the influenza. We may add to this, that he was a valetudinarian for a long time before; but had lately overcome, in a great measure, all his complaints.

“ To corroborate the remark, that the weather, &c. had great influence in modifying it, not only at St. Alban’s, but the other villages, the soldiers were first seized with it, and were more violently handled than most others. Soldiers are not only lighter clothed, but worse fed, worse lodged, and more exposed to all the vicissitudes of the weather, than most other descriptions of men.

“ An account from Aberdeen says, ‘ The disease rages here; and it is rather singular that the soldiers are first attacked by it, and more ill of this description of men than any other.’ If we allow the same influence to the weather for which I contend, there will appear nothing singular in the case. In a word, the fact is well established. The same remark was made in Dublin; for we find 700 soldiers there labouring under it at once, unable to do their duty in barracks.

“ An account from Utrecht informs us of their having no less than 3000 ill of it.

“ With regard to the fleet, where the influence of the weather likewise prevails, as the crews are much exposed to the open air, both our own, and that of other powers, were great sufferers.

“ Among others of our own vessels, the Stag and Stout privateers suffered greatly; for on coming into Dublin harbour, most of their crews were ill of it. From one of our ships, it seems no fewer than 300 were put on shore under it; and out of another, 400.

“ In the Nemesis frigate, 70 were ill at once. This I had from an officer belonging to her, who was himself so ill, that he had not at the time I saw him recovered from its effects, though at the distance of four months from the attack.”

Another instance Dr. Hamilton here adduces, in proof that the weather had much influence in modifying the disease.

“ A young gentleman at Luton,” says he, “ about twenty-three, of a volatile turn, and lately a valetudinarian, but who, for eight or ten weeks, had so far recovered as to be able to follow his amusements, and who, for this purpose, generally walked or rode, whether the weather was favourable or not, several hours a-day, often at the same time indulging himself freely in the glass, was at last seized with the epidemic, and suffered severely. We may place this gentleman, in many respects, in the situation of a soldier, with regard to the irregularity of his life, and exposure to the vicissitudes of the weather.

“ The delicate also, and the valetudinarian, in all my observations, were great sufferers; and still greater in proportion as they were exposed to the vicissitudes of the weather. Others in different parts of England have also made the same observation. A

surgeon at Newbury in Berks, writing to me on the subject, has these words: 'A few infirm and bad habits sunk;' as hardly any valetudinarian escaped it, and as in these it generally appeared with the greatest severity, so, for the most part, it was attended with dangerous symptoms only in patients of this class. One woman at Luton fell into a phthisis pulmonalis after it.

"Both the states of *old age and infancy were more exempt* from it than any other; I mean such as we e in good health. At four years of age, or so, many suffered. A surgeon at Beccles, in a letter to a friend, affirmed, that a child of his only eighteen months old, took the disease. This, however, is the only instance of the kind that came to my knowledge, though I have conversed with many, and made much enquiry on the subject in many parts of England. I had an evident example afforded me to prove how far the distressing passions predisposed the body to be more severely affected by it. These always debilitate the habit by the constant uneasiness the mind undergoes.

"A soldier in the light infantry was for some time violently in love with one of the Cyprian nymphs that follow the drum. She was young and handsome, and had so far engaged his affections, that he offered to marry her, though well acquainted with her way of life. She preferred her liberty, and refused him. This had such an effect on his spirits, that, from a stout well-looking young fellow, with all the health of a farmer's servant (for he was lately a recruit from the country), in a short time he became thin and wan; he took the disease, not however when the others had it, but in the beginning of June, when the regiment marched from the villages aforesaid to Royston, on their way to camp. A day or two before this he had parted with his goddess at Luton. He suffered more from the disease than any other of my patients; and his case put on more of a remittent than any other I had seen."

3. *Causes.*] On this subject Dr. Hamilton contends for what, we apprehend, will be readily conceded, that the cause of this disease is not a specific contagion communicated by the atmosphere, but by *actual contact*.

"I would not be understood," says he, "from what I have said relative to the influence of the weather, that the cause of the disease is to be looked for in the air alone. This is only a *predisposing* cause. Because cold air can give birth to a common catarrh, are we to conclude it can give birth to the influenza? Cold moist air renders indeed the application of a *materies morbi* more effectual.

"We have many examples to prove that the air cannot hold, nor yet convey contagion to any distance. If it be mixed with the atmospheric air, it is soon dissipated, perhaps chemically decomposed, if it be a compound body, and its nature altogether

changed. Experience shews, that contagions have always been communicated by contact with the infected, either mediately or immediately, i. e. by persons who bring it on their clothes to the persons who receive it; or by its being conveyed from the infected in various kinds of goods. I mean here all specific contagions, such as the small pox, &c. or those from human effluvia, such as produce fevers of a dangerous nature. We are now well assured that the plague, the most infectious of all diseases, is not communicated by the air, but by *contact*.

“ It has already been pointed out, that the attacks of the disease were not at the same time. If the cause lay in the air, all must have been seized at once; for though it often spread rapidly, it was still progressively; sometimes slowly and gradually.”

With a view of shewing that the true cause sprung from a particular *materies morbi*, a certain contagion, Dr. Hamilton adduces his own case, preceded by the following details:

“ The first,” says he, “ who were seized with it at Norwich were two men lately arrived from London, where it then continued to rage. A serjeant of grenadiers of the tenth regiment of foot went to London on furlough: the disease then raged in the capital. He returned in a few days to St. Alban’s affected, and communicated it to the people in whose house he had his billet. This was the first of its appearance there: and from thence it rapidly spread all over the town.”

“ An officer of the same corps, being then in Dublin, told me he received it from a lady, in whose company he sat at dinner. She was then complaining of indisposition from it: he sat next her. Before he left the room he was seized, and did not completely recover in two months; having lost his voice great part of this time.

“ One of Lord Bute’s labourers, living on the banks of the river at Luton, happened to receive a compound fracture of his thigh about the beginning of April; a month at least before the influenza appeared there. When the rest of the family were seized, though he had never been from his bed since the accident, yet he caught the disease, and suffered considerably. Here was no exposure to the vicissitudes of the weather. This fell under my own observation, as I attended him from the time of the accident till after the epidemic.

“ Besides,” continues Dr. Hamilton, “ when we reflect on the symptoms of the influenza, we shall find them such, in general, as denoted *debility*. Far more prostration of strength was united with it than we ever find attend catarrhs from cold alone; and I am led to think this forms one of its chief distinguishing symptoms. ‘ A catarrh,’ says a certain writer, ‘ from the situation of our island, and from the sudden vicissitudes of the weather, with respect to heat and cold, may with the strictest propriety be looked

on as the endemic disease of Great Britain.' But catarrhs from this source alone never bring with them such loss of the powers of exertion and universal asthenia.

"Whatever then may be the nature of this *materies morbi*, it is such as always produces great alteration in the functions of the nervous system.

"Few diseases, putrid fevers excepted, ever produced loss of strength and debility more suddenly than this. The crew of the Fly sloop of war was an immediate instance of this. The captain affirmed, that forty of his men fell ill in less than eight hours; several of whom, he declared, dropped down at the wheel as they steered the vessel. This circumstance obliged him to put back, and stand again for the Yarmouth roads, which he had only left a few hours before, with all hands apparently well, merely for want of men to navigate her. The infection must have been received from shore, with which they had frequent communication."

After remarking on the general subject of contagion, the Dr. speaks of the degree of fatality attending this disease, which on the whole was not considerable.

4. *Cure.*] Among the means of cure, various in various persons, which have been had recourse to, none is of more material consequence to consider than *venesection*. On this head we shall beg leave to suggest a few hints. Those who contend that they found it useful and necessary, generally give the appearance of the buffy crust as one of their reasons. This, it is well known, is a very fallacious test. It appears, on many occasions, where bleeding is by no means warranted.

Hence, neither the presence nor yet absence of the buffy crust is an absolute guide to determine us. The density of the crassamentum, the small quantity of serum separated, with perhaps its greenish colour, even should no coagulable lymph appear, denote higher degrees of inflammation, and greater activity in the arterial system oftentimes, than when the buffy coat covers the surface. The first drawn cup often shews none; the second and third perhaps abound with it. These circumstances at least suggest the necessity of caution. Nor should we be led always to judge of the propriety of bleeding in this disease even from the pulse, without maturely weighing every circumstance of the case, and symptoms with which it is attended. A small pulse should not always deter us from the use of the lancet; nor yet a large pulse, apparently strong under the fingers, urge us to it; for the one, even from a trifling loss, a few ounces will sometimes sink, and prostration and debility so rapidly follow, that all our endeavours may not be able to repair the injury occasioned by it; while the other rises as we continue to draw off the blood, and bears with manifest advantage a large loss of blood. The same caution

ought to be observed in dyspnœa, for it not unfrequently takes place from debility; and this is manifested from its often attending too much depletion. To these particulars it may be added, that the symptoms already described as occurring in the influenza, were for the most part such as to deter from the use of the lancet; and even in those cases where it seemed admissible, it was to be done only after a nice investigation of the existing circumstances.

“We found,” says Dr. Hamilton, “that, for the most part, the pulse was soft; indeed very rarely hard; that it was small and debile; even seldom full, and betraying very little activity in the arterial system; with pains in the back and loins, vertigo, rigors, &c.

“Some inflammation I will allow; the state of the mucous membrane proved there was a degree of it present. We know a degree of it exists in chronic rheumatism, yet bleeding is seldom advantageously used in this complaint; for if it be pushed to any degree, a paralytic affection might be the consequence, or other marks of asthenia equally bad.

“In the peripneumonia notha of Huxham, we find him dissuading from bleeding, though at the same time he admitted the presence of considerable inflammation. Practitioners in different parts of the island confessed, that in the epidemic of which we are treating, little of the inflammatory crust appeared on the blood. This was the case at Yarmouth. The surgeons there found it always florid, and loose in its texture. They bled however; but they observed it never gave that permanent relief which, from the straightness of the chest, they expected from it.

“In a letter from Stamfordham, I find that bleeding was pretty generally used in the beginning of the epidemic; but they found reason to alter the practice, as they became more acquainted with its nature. ‘But now,’ says my correspondent, ‘the disease has taken another turn. Though the patient complains of pains and aches all over him, particularly about the breast; and if you bleed him, the inflammatory crust, as it is called, manifestly justifies that step; yet notwithstanding all these symptoms, which indicate V.S. the disease, at least in our part of the country, does not bear bleeding; for the pulse becomes weak, and there is great debility, and languor hangs upon them.’ In a second letter on the subject, he says, ‘at least it seemed to run a good deal into the low and putrid, so that we were obliged to give cordials and antiseptics.’ Dr. Macqueen says, the only one that died there was a man that had been twice bled; and he was of opinion this contributed to his death.”

Yet by what has been said, Dr. Hamilton would not be understood to mean a total dissuasion from bleeding in every case. The phlogistic diathesis prevailed so much in many patients, as to

indicate it, and much relief was afforded by it. Patients were differently affected, according to circumstances of habit, place, &c.

"The recovery from the disease," continues our author, "we always found slow in such as suffered from it. So great was the debility, that it was weeks before the patient's strength was perfectly recovered; though in others the disease was slight, and left little marks of debility behind it. This is still a farther proof, that in general there was little of the phlogistic diathesis in the system. We never observe such debility after pleurisy or peripneumony, except where phlebotomy has been injudiciously prosecuted; in such cases, indeed, the patient will not only be weak long after, but obnoxious to serous effusions. The dissections of industrious practitioners shew that these often follow inflammatory diseases, where the lancet has been improperly used. 'It is an undoubted fact,' says a modern author, 'that repeated bleeding, without necessity, has greatly injured many constitutions. The catarrh may frequently attack delicate relaxed habits, which are rendered highly irritable from excess of heat, and unhappily obnoxious to the disease from exposure to cold. In these, as well as in more robust constitutions, the catarrh is often perfectly pure, unaccompanied with peripneumonic affections, or such other symptoms as indicate bleeding.'

"Besides, I am apt to think our constitutions considerably changed within this last century in Great Britain. Luxury, and its enervating effects, render the diseases of this island less inflammatory than perhaps they formerly were. Diseases that in their nature were always, and even now are, allowed to be phlogistic, have appeared within the space of these last thirty years, accompanied with a considerable degree of putridity, viz. the measles.

"To conclude. I am of opinion, that the fever which accompanied this catarrhal affection, shewed in most places more marks of asthenia than of phlogosis, that bleeding has been oftener used in it than with permanent relief, and that should we again be visited with it, under the same circumstances and train of symptoms, we should profit by our late experience, and use the lancet with caution; never letting slip from our minds the tendency of the contagion, which certainly appears from its effects to be of a debilitating nature; and since, to use the words of a certain author, 'if bleeding be powerful in preserving life, it is also powerful in destroying it.'

The *natural crisis* of this complaint appears to be by the skin; *diaphoretics*, therefore, and *diluents* constitute the chief part of the cure. *Emetics*, or rather nauseating doses of antimonials, when early used, seemed very serviceable; they are diaphoretic, they also prove expectorant when given in full doses, and in this sense they have been useful in the beginning of the disease. They

generally prove laxative, cleansing the primæ viæ; nay, they become hypnotic, for, generally speaking, the sleep of the succeeding night is sounder, especially when they have been exhibited in the evening. They open obstructions in vessels, whereby the different secretions are more equally performed; and thus by one simple medicine we have oftentimes various purposes answered. A happy choice of a simple, the dose, and time of exhibition maturely weighed, will, for the most part, answer better than a multiplicity of medicines jumbled in a prescription, and save the patient not only from much uneasiness, which would be created by loading the stomach improperly with medicines it abhors, but from unnecessary expenditure of his money. A conscientious physician will also have this in view.

“Considerable advantage has likewise been obtained from the prudent use of *opiates*. Where the cough was severe, as was mostly the case, they also determined to the surface. Though their chief use seems to consist in the respite they give to the cough, the removal of irritation, and thus allowing time to the mucous membrane to recover its tone; by their means the discharge decreases, and the habit in the mucous glands to a vitiated secretion is thereby checked.

“*Nitre* has been celebrated for relieving the cough; and I, with others, have sometimes had recourse to it. I would, however, be cautious in its frequent exhibition, as it sometimes renders worse the very symptom for the relief of which it has been administered. Others have made the same observation. ‘I have known,’ says Fothergill, ‘in common doses of nitre, the saline draughts, and other cooling salts, increase a cough by irritation.’

“I found a *generous diet*, where it was in the patient’s power to procure it, highly conducive to a more speedy recovery; and even in the course of the disease many bore a more liberal use of wine than is generally given in catarrhal affections from cold alone.

“After what has been said, I need scarcely dissuade from the warmer *sudorifics*, or the stronger *purges*. These were always found as prejudicial, as diaphoretics and laxatives were useful.

“A cautious discrimination between it and other diseases appearing sporadically at the same time, should most certainly be kept in view; for where it proves thus compounded, the method of cure must also vary; and more or less of the inflammatory diathesis prevailing, may lead to mistakes with respect to the genuine nature of the disease. Not only the weather, situation, and constitution, but intercurrent diseases, all unite to vary the appearance of the epidemic; to all of these the cautious and prudent practitioner ought strictly to attend.

“*Pediluvium* determines also to the surface, encourages a larger

share of the blood from the head and superior parts to the lower, is generally followed by sleep, relieves delirium, moderates the cough, and removes sickness at the stomach, from the great sympathy between this organ and all parts of the body, but especially with the surface. Hence I frequently ordered it, and with advantage; but at first I was timid, considering the disease of a more inflammatory nature than a little practice taught me it was. I therefore never suffered the patient to sit in the water above a few minutes; but from its inducing a quiet night's rest, and being often followed by a gentle diaphoresis, when assisted with a few drops of antimonial wine, I continued it in many cases to near half an hour; taking care not to keep the water at so high a degree of heat as to create too much stimulus, and produce an increased action in the arterial system. This is another remedy, powerful in producing different, and even opposite effects, according to the mode of its application, as is well known to practitioners."

Dr. Hamilton says nothing of *blisters*, as he had seldom occasion to use them. Others, he says, often tried them with good effect, where vertigo or delirium occurred, or where the breathing was difficult.

"Of the *bark*," he says, "practitioners in various parts found the bark useful. I doubt not but it was where the disease put on more of the appearance of an intermittent or remittent, and where it was accompanied with symptoms of putrescency; which several affirmed it to be. In low situations, such as the fenny parts of Cambridgeshire and Lincolnshire, where fevers from marsh effluvia are endemic, the bark, and antiseptics, and tonics, must be more requisite than in drier situations; but I forbear offering any farther remarks on the method of cure, for the reason I omitted mentioning the other concomitant symptoms."

An account of the contagious catarrh, as it appeared in America, is given in the *Memoirs of the Medical Society of London*, vol. IV. p. 434.

Although the epidemic we have described in these pages may be looked upon as of little consequence, being often mild, and seldom fatal, if not improperly treated, either by bleeding, or by the use of heating medicines, or by neglect, yet its causes, progress, and mode of attack, may certainly be deemed worthy the place we have assigned it in this work; without which, indeed, our observations on catarrh would have been incomplete.

GENUS XLI. DYSENTERIA.

The DYSENTERY.

Dysenteria, *Sauv.* gen. 248. *Lin.* 191. *Vog.* 107. *Sag.* 183.
Hoffm. III. 151. *Junck.* 76.

1. *Description.*] The dysentery is a disease in which the patient has frequent stools, accompanied with much griping, and followed by a tenesmus. The stools, though frequent, are generally in small quantity; and the matter voided is chiefly mucus, sometimes mixed with blood. At the same time the natural faeces seldom appear, and when they do it is generally in a compact and hardened form, often under the form of small hard substances known by the name of *scybalæ*. This disease occurs especially in summer and autumn, at the same time with autumnal intermittent and remittent fevers; and with these it is often complicated. It comes on sometimes with cold shiverings, and other symptoms of pyrexia; but more commonly the symptoms of the topical affection appear first. The belly is costive, with an unusual flatulence in the bowels. Sometimes, though more rarely, some degree of diarrhoea is the first appearance. In most cases the disease begins with griping, and a frequent inclination to go to stool. In indulging this, little is voided, but some tenesmus attends it. By degrees the stools become more frequent, the griping more severe, and the tenesmus more considerable. With these symptoms there is a loss of appetite, and frequently sickness, nausea, and vomiting, also affecting the patient. At the same time there is always more or less of pyrexia present. It is sometimes of the remittent kind, and observes a tertian period—Sometimes the pyrexia is manifestly inflammatory, and very often of a putrid kind. These febrile states continue to accompany the disease during its whole course, especially when it terminates soon in a fatal manner. In other cases, the febrile state almost entirely disappears, while the proper dysenteric symptoms remain for a long time after. In the course of the disease, whether for a shorter or a longer time, the matter voided by stool is very various. Sometimes it is merely a mucous matter without any blood, exhibiting that disease which is named by some the *morbus mucosus*, and by others the *dysenteria alba*. For the most part, however, the mucus discharged is more or less mixed with blood. This sometimes appears only in streaks among the mucus; but at other times is more copious, giving a tinct to the whole; and upon some occasions a pure and unmixed blood is voided in considerable quantity. In other respects, the matter voided is variously changed in colour and consistence, and is commonly of a strong and unusually fetid odour. It is probable,

that sometimes a genuine pus is voided, and frequently a putrid fæces, proceeding from gangrenous parts. There are very often mixed with the liquid matter some films of a membranous appearance, and frequently some small masses of a seemingly sebaceous matter. While the stools voiding these various matters are, in many instances, exceedingly frequent, it is seldom that natural fæces appear in them; and when they do appear, it is, as we have said, in the form of scybala, that is, in somewhat hardened separate balls. When these are voided, whether by the efforts of nature or as solicited by art, they procure a remission of all the symptoms, and more especially of the frequent stools, griping, and tenesmus.

Accompanied with these circumstances, the disease proceeds for a longer or a shorter time. When the pyrexia attending it is of a violent inflammatory kind, and more especially when it is of a very putrid nature, the disease often terminates fatally in a very few days, with all the marks of a supervening gangrene. When the febrile state is more moderate, or disappears altogether, the disease is often protracted for weeks, and even for months; but, even then, after a various duration, it often terminates fatally, and generally in consequence of a return and considerable aggravation of the inflammatory and putrid states. In some cases the disease ceases spontaneously; the frequency of stools, the griping, and tenesmus, gradually diminishing, while natural stools return. In other cases, the disease, with moderate symptoms, continues long, and ends in a diarrhœa, sometimes accompanied with lenteric symptoms.

2. *Causes, &c.*] The remote causes of this disease have been variously judged of. It generally arises in summer or autumn, after considerable heats have prevailed for some time, and especially after very warm and at the same time very dry states of the weather; and the disease is much more frequent in warm than in cooler climates. It happens, therefore, in the same circumstances and seasons which considerably affect the state of the bile in the human body: but the cholera is often without any dysenteric symptoms, and copious discharges of bile have been found to relieve the symptoms of dysentery; so that it is difficult to determine what connection the disease has with the state of the bile.

It has been observed, that the effluvia from very putrid animal-substances readily affect the alimentary canal, and, upon occasion, they certainly produce a diarrhœa; but whether they ever produce a genuine dysentery, is not certain.

The dysentery does often manifestly arise from the application of cold, but the disease is always contagious; and, by the propagation of such contagion, independent of cold, or other exciting causes, it becomes epidemic in camps and other places. It is,

therefore, to be doubted if the application of cold ever produces the disease, unless where the specific contagion has been previously received into the body; and, upon the whole, it is probable that a specific contagion is to be considered as being always the remote cause of this disease.

Whether this contagion, like many others, be of a permanent nature, and only shews its effects in certain circumstances which render it active, or if it be occasionally produced, we cannot determine. Neither, if the latter supposition be received, can we say by what means it may be generated. As little do we know any thing of its nature, considered in itself; or at most only this, that, in common with many other contagions, it is very often somewhat of a putrid nature, and capable of inducing a putrescent tendency in the human body. This, however, does not at all explain the peculiar effect of inducing those symptoms which properly and essentially constitute dysentery. Of these symptoms the proximate cause is still obscure. The common opinion has been, that the disease depends upon an acrid matter thrown upon or somehow generated in the intestines, exciting their peristaltic motion, and thereby producing the frequent stools which occur in this disease. But this supposition cannot be adopted; for, in all the instances known, of acrid substances applied to the intestines, and producing frequent stools, they at the same time produce copious stools, as might be expected from acrid substances applied to any length of the intestines. This, however, is not the case in dysentery, in which the stools, however frequent, are generally in very small quantity, and such as may be supposed to proceed from the lower parts of the rectum only. With respect to the superior portions of the intestines, and particularly those of the colon, it is probable they are under a preternatural and considerable degree of constriction: for, as we have said above, the natural feces are seldom voided; and when they are, it is in a form which gives reason to suppose they have been long retained in the cells of the colon, and consequently that the colon had been affected with a preternatural constriction. This is confirmed by almost all the dissections which have been made of the bodies of dysenteric patients; in which, when gangrene had not entirely destroyed the texture and form of the parts, large portions of the great guts have been found affected with a very considerable contraction.

The proximate cause of dysentery, or at least the chief part of the proximate cause, seems to consist in a preternatural constriction of the colon, occasioning, at the same time, those spasmodic efforts which are felt in severe gripings, and which efforts, propagated downwards to the rectum, occasion there the frequent mucous stools and tenesmus. But whether this explanation shall be admitted or not, it will still remain certain, that hardened feces,

retained in the colon, are the causes of the griping, frequent stools, and tenesmus; for the evacuation of these feces, whether by nature or by art, gives relief from the symptoms mentioned; and it will be more fully and usefully confirmed by this, that the most immediate and successful cure of dysentery is obtained by an early and constant attention to the preventing the constriction, and the frequent stagnation of feces in the colon.

3. *Cure.*] In the early periods of this disease, the objects chiefly to be aimed at are the following: The discharge of acrid matter deposited in the alimentary canal; the counteracting the influence of this matter when it cannot be evacuated; the obviating the effects resulting from such acrid matter as can neither be evacuated nor destroyed; and, finally, the prevention of any further separation and disposition of such matter in the alimentary canal. In the more advanced periods of the disease, the principal objects are, the giving a proper defence to the intestines against irritating causes; the diminution of morbid sensibility of the intestinal canal; and the restoration of due vigour to the system in general, but to the intestines in particular.

The most eminent of our late practitioners, and of greatest experience in this disease, seem to be of opinion, that it is to be cured most effectually by purging assiduously employed. The means may be various, but the most gentle laxatives are usually sufficient; and, as the medicine must be frequently repeated, these are the most safe, more especially as an inflammatory state so frequently accompanies the disease. Whatever laxatives produce an evacuation of natural feces, and a consequent remission of the symptoms, will be sufficient to effectuate the cure. But if the gentle laxatives shall not produce the evacuations now mentioned, somewhat more powerful must be employed; and Dr. Cullen has found nothing more proper or convenient than tartar emetic, given in small doses, and at such intervals as may determine its operation to be chiefly by stool. An antimonial, at one time considered as an almost infallible remedy for this disease, is the *vitrum antimonii ceratum*, but it is exceptionable from the uncertainty and violence of its operation; and perhaps the safest and best purgatives are the neutral salts (No. 119), particularly those containing fossil alkali, such as the soda vitriolata, tartarifata, or phosphorata. Rhubarb, so frequently employed, is, he thinks, in several respects, amongst the most unfit purgatives; and indeed, from its astringent quality, it is exceptionable at the commencement of the affection, unless it be conjoined with something to render its operation more brisk, such as calomel.

Vomiting has been held a principal remedy in this disease; and may be usefully employed in the beginning, with a view to both the state of the stomach and the fever, but it is not necess-

fary to repeat it often ; and unless the emetics employed operate also by stool, they are of little service. Ipecacuanha is by no means a specific ; and it proves only useful when so managed as to operate chiefly by stool. Dr. Saunders combines emetics and purgatives thus :

(No. 227.) ℞ Infus. fennæ simpl. ℥v.

Kali tartar. ℥j.

Antim. tartar. gr. ij.

Solve ut fiat Mist. cathart. Sumantur cochlearia iv. quolibet trihorio, donec venter rite solutus fuerit.

For relieving the constriction of the colon, and evacuating the retained fæces, clysters (No. 34. or No. 89.) may sometimes be useful ; but they are seldom so effectual as laxatives given by the mouth ; and acrid clysters, if they be not effectual in evacuating the colon, may prove hurtful by stimulating the rectum too much.

The frequent and severe griping attending this disease, leads almost necessarily to the use of opiates, and they are very effectual for the purpose of relieving from the gripes ; but, by occasioning an interruption of the small intestines, they favour the constriction of the colon, and thereby aggravate the disease ; and if, at the same time, the use of them supersede in any measures the employing purgatives, it is doing much mischief ; and the neglect of purging seems to be the only thing which renders the use of opiates very necessary. The union of opium with purgatives may however be proper in some cases.

(No. 228.) ℞ Tinct. rhubarb. vinos. ℥j.

Kali præp. gr. iij.

Tinct. opii gutt. x. ad xx.

Aq. Menth. pip. ℥iss. M. fiat Haustus.

When the gripes are both frequent and severe, they may sometimes be relieved by the employment of the semicupium, or by fomentation of the abdomen continued for some time. Vide formulæ (No. 116. and No. 121.) In the same case, the pains may be relieved, and the constriction of the colon may be taken off, by blisters applied to the lower belly.

At the beginning of this disease, when the fever is any-way considerable, blood-letting, in patients of tolerable vigour, may be proper and necessary ; and, when the pulse is full and hard, with other symptoms of an inflammatory disposition, blood-letting ought to be repeated. But, as the fever attending dysentery is often of the typhoid kind, or does, in the course of the disease, become soon of that nature, blood-letting must be cautiously employed.

Dr. Fordyce describes the treatment of dysentery in the following way : He says evacuation by bleeding is detrimental in

Dysentery, except when it is the natural cure of a phlegmonous inflammation of the intestines, and attended with hardness, fullness, and strength of the pulse.

The *primæ viæ* are to be cleared both of the feculent matter and fluids secreted into them; these, as in all cases of increased secretion where the glands are inflamed, being very apt to stimulate and putrefy.

When the stomach is much affected, an emetic is to be exhibited; and it ought to be managed in the same manner as has been directed in fevers, as we wish it here also to exert its relaxing power, and throw the circulation upon the skin.

A purgative is also to be given, and we should choose that which acts principally by increasing the peristaltic motion of the intestines, as it is not a greater secretion which is required, but an evacuation of the matters already contained. Although rhubarb does not purge so copiously, yet, as it clears the *primæ viæ*, it is preferable to most others. We rather choose therefore to continue to employ it with the older physicians, than give it up, as some late practitioners have done, not considering the above intention, nor the progress of the disease after its operation, but merely the copiousness of the evacuation. It may be given as in (No. 145.)

While the disease continues, it is to be repeated frequently for the same purpose, and also to prevent any thing being retained in the upper part of the intestines, where the peristaltic motion is now going on too slowly.

After the operation of the purgative, we are to endeavour to throw the circulation on the exterior parts of the body by relaxants.

(No. 229.) \mathcal{R} Pulv. Ipecac. gr. i. ad gr. ij.

Vel \mathcal{R} Sacchar. Alb. gr. v.

Antim. Tartar. gr. $\frac{1}{4}$ ad gr. β .

Ft. Pulv. Capt. quâque horâ.

The intestines are at the same time to be defended by mucilaginous medicines, and the secretion checked by gentle astringents.

(No. 230.) \mathcal{R} Gum. Arabici \mathfrak{z} ij.

Solv. in Aq. Hord. \mathfrak{h} ij. Adde

Syr. Limon. \mathfrak{z} ij.

Bibat pro potu.

(No. 231.) \mathcal{R} Aq. Font. \mathfrak{h} ij.

Corn. Cerv. calc. et præp. \mathfrak{z} ij.

Gum. Arab. \mathfrak{z} ij.

Coque, ut Gum. solvatur, et bibat poculum frequenter.

Mucilaginous clysters (as No. 105., &c.) take off the stimulus arising from attempts to evacuation, when little or nothing is contained in the lower part of the intestines; which stimulus is sometimes the sole cause of the continuance of the disease.

When injected every eight or twelve hours, they are now and then sufficient for the cure; and are in all cases useful.

It is also of considerable use to avoid, as much as possible, any attempt to go to stool; and if there be soreness about the anus, it should be rubbed with *unguent. simplex*, or any other expressed oil that is just fluid in the heat of the body. Or if the other symptoms are greatly diminished, and this continues, an opiate may be added to the mucilage in the clyster.

Stimulants applied externally to the belly have been found useful in relieving the pain.

(No. 232.) \mathcal{R} Sp. Vin. Rectif. \mathfrak{z} viii.

Ol. Menthæ \mathfrak{z} j.

Sapon. Venet. \mathfrak{z} ss. Solve.

Ventri applicentur lintea calida, linimento hocce madefacta, ter quaterve indies.

Vel (No. 233.) \mathcal{R} Empl. com. \mathfrak{z} j.

Ol. Sem. Carui \mathfrak{z} j.

Gum. Galb. \mathfrak{z} j.

Ft. Empl. super alutam extendendum, et abdomini applicandum.

Interdum additur Opii \mathfrak{z} j.

At the same time the patient should be kept in as pure air as possible, provided that it be always moderately warm, and that he be not exposed at any time to cold, especially in those circumstances in which it is most liable to affect the system.

The food ought to consist of preparations of farinaceous vegetable substances.

If, notwithstanding the treatment already proposed, the purging should go on, so that there is danger to be apprehended from the weakness or irritation, astringents, and particularly opium, may be given along with the other medicines, and from $\frac{1}{3}$ to half a grain of it may be taken every eight hours; but when they are employed at the beginning, especially alone, they stop the secretion, but leave the inflammation, and death ensues either from the symptoms of irritation, or now and then from gangrene and mortification of the intestines.

If the disease then continues, and the symptoms of irritation are not very violent, the opium is to be exhibited alone, or spices are to be joined to it; or other astringents may be employed; such as,

(No. 234.) \mathcal{R} Cort. Simarubæ \mathfrak{z} ss.

Coque in Aq. Font. \mathfrak{lb} .i \mathfrak{ss} . ad \mathfrak{lb} i.

Colaturæ capt. cochl. ij. tertiâ quâque horâ.

Vel. (No. 235.) \mathcal{R} Extract. Ligni Campeach. \mathfrak{z} j.

Ft. Pill. xx. Capt. tres vel quatuor sextâ quâque horâ.

Or astringents, spices, and opium, may be given together. Or opiates or astringents may be added to the mucilaginous clysters. But it is to be observed, that it is the secretion we wish to stop by

these astringents, and not the evacuation of the matters already contained in the intestines; for this reason the purgatives ought to be repeated, even during the use of the astringents.

In recent cases we may expect the cure to succeed quickly; but in those of longer continuance, a perseverance in the proper remedies is necessary, especially if the intestines should be inulcerated; and then indeed the disease is frequently fatal.

If a dysentery should arise with acute pain, the evacuations not being frequent, and the pulse hard, full, and strong, as before described, we are to bleed copiously and repeatedly, and exhibit purgatives which will produce copious evacuations, such as neutral salts, and apply fomentations to the abdomen (No. 117.) till the hardness of the pulse and other symptoms of general and phlegmonous inflammation cease: afterwards we are to proceed as before directed.

A dysentery accompanying a fever is also very dangerous, as either disease being cured, the other may continue, and as both together may soon weaken and kill. We are to endeavour to take off the fever, by the remedies already pointed out at the beginning of a violent one, and afterwards to treat the disease as a simple dysentery, being more cautious in employing astringents.

After the purging is stopt, the patient often becomes costive, and if he be suffered to continue in that state for two or three days, he is apt to relapse; the belly is therefore to be opened by bitter purgatives.

After the disease is cured, the bark may be employed to restore the strength. It is also sometimes of use during the purging when it has continued long, and the ordinary symptoms of weakness appear.

From our account of the nature of this disease, it will be sufficiently obvious, that the use of astringents in the beginning of it must be very pernicious. But although astringents may be hurtful at early periods of this affection, yet it cannot be denied, that where frequent loose stools remain after the febrile symptoms have subsided, they are often of great service for diminishing morbid sensibility, and restoring due vigour to the intestinal canal. Accordingly, on this ground, a variety of articles have been highly celebrated in this affection; among others we may mention the quassia, radix indica lopeziana, verbascum, extractum catechu, and gum kino, all of which have certainly in particular cases been employed with great advantage. And perhaps also, on the same principles, we are to account for the benefit which has been sometimes derived from the nux vomica, a remedy highly extolled in cases of dysentery by some of the Swedish physicians; but this article, it must be allowed, often proves very powerful as an evacuant. Its effects, however, whatever its mode of operation may be, are too precarious to allow its ever being introduced into com-

mon practice; and in this country it has, we believe, been but very rarely employed. Whether an acrid matter be the original cause of the dysentery may be uncertain; but, from the indigestion, and the stagnation of fluids, which attend the disease, we may suppose that some acrid matters are constantly present in the stomach and intestines; and therefore that demulcents may be always usefully employed. At the same time, from the consideration that mild oily matters thrown into the intestines in considerable quantity always prove laxative, Dr. Cullen is of opinion, that the oleaginous demulcents are the most useful. Where, however, these are not acceptable to the patient's taste, those of the mucilaginous and farinaceous kind, as the decoctum hordei, potio cretacea, &c. are often employed with advantage.

As this disease is so often of an inflammatory or of a putrid nature, it is evident that the diet employed in it should be vegetable and acescent. Milk, in its entire state, is of doubtful quality in many cases; but even some portion of the cream is often allowable, and whey is always proper. In the first stages of the disease, the sweet and subacid fruits are allowable, and even proper. It is in more advanced stages only that any morbid acidity seems to prevail in the stomach, and to require some reserve in the use of acescents. At the beginning of the disease absorbents seem to be superfluous; and, by their astringent and septic powers, they may be hurtful; but in after periods they are often of advantage.

4. *Treatment in hot climates.*] So much for this disease as it exists in Europe; but its attacks are witnessed in a far greater degree by medical men who practise in the tropical climates, especially on military or naval service. Many have described the disease and its treatment under these circumstances, but little has been suggested beyond the application of the remedies already proposed in different states of combination. From this supposed want of originality, however, we have great pleasure in shewing an exception in the excellent remarks on this subject by Dr. Moseley.

"The immediate causes of all diseases," says he, "well understood and properly considered, point to their cure. It was an observation of the illustrious Sydenham, that, possessing this knowledge, and a correct history of a disease, he never was at a loss to prescribe a suitable remedy for it; and that he always proceeded with caution until these circumstances were ascertained.

"The disorder in question has been, I believe, more considered from its effects, remote and concurring causes, than from its immediate cause: hence we may account for the inefficacy of the various attempts to cure it.

"The pen of writers has done little more in the dysentery than record the times and places when and where it proved most fatal, the appearance it put on, its symptoms, its devastation, variety

of modes of treatment that had no certain success, now and then a remarkable case, and the phenomena discovered on dissecting the dead.

“ The great author above mentioned, following nature as an unerring guide, never stopped at effects, neither did he bewilder himself in the search of those causes of diseases that are not cognizable by our senses, but proceeded on to such as are immediate or conjunct, and observed and assisted the means employed by nature to relieve herself struggling under the oppression of disease; or substituted a safer and better method, when hers was dangerous or ineffectual. To this principle the world is indebted for that inestimable work, which can only perish with it; a work founded on a basis applicable to all climes, that stands as the palladium of physic against the superstitious errors of the middle ages, and the ingenious chimeras of later times.

“ He discovered the dysentery to be a fever of the season, or of its own kind, turned inwards upon the intestines. ‘ *Febrim eum esse sui scilicet generis, in intestina introversam.*’ P. 182. And yet his successors have made but little farther use of this excellent aphorism than quoting it, as their rules laid down for treating the disease sufficiently prove.

“ In the course of my experience in the *West Indies*, and from every account I have been able to procure in that part of the world, I have invariably found the truth of Sydenham’s opinion; and have remarked, that as the flux conforms by the number of stools, and by its rapidity, to the degree, so it does to the state of the fever, of the season, when it prevails; the stools being more frequent, and all symptoms more aggravated, at those hours when the current fevers are in their exacerbation, and the reverse when those fevers are in their remission; besides, the alternate succession of one disease to another, I have frequently observed. Nor can it be doubted that this fever of the intestines, like most others, is caused by *obstructed perspiration*; not confined to cold, hot, wet, or dry seasons, particular food, water, liquors, or fruit; but chiefly depending on some secret influence in the atmosphere, or on sudden transitions of the air, and such other causes as expose people to have perspiration hastily stopped.”

Dr. Moseley, though well aware of all that has been written on the remote, predisposing, and proximate causes of dysentery, and of the great stress laid on heat and moisture, putrid ferments, infection, &c. asserts, nevertheless, that there has been too much attention employed on these vague and uncertain circumstances, while the *immediate cause* has escaped unnoticed.

“ As I have constantly practised,” says the doctor, “ in the opinion that an epidemical dysentery is a fever of the intestines, and that this fever is universally caused by the obstructed perspiration being determined there; so I have universally found it relieved

by turning back that discharge to its natural channel: nor have I often found difficulty in removing it speedily, when taken in the beginning of the disease.

“ The common and fatal practice of attacking the disorder in the bowels, with opiates and astringents, is but aggravating the effect (which at first is irritation and distension of the mefaric vessels), while the *cause* is entirely neglected.

“ Some physicians recommend ipecacuanha in small doses, united with phlonium, or opium; others a course of ipecacuanha in stages of the disease, when the inflammatory symptoms are over. The good effects from ipecacuanha are attributed sometimes to its antispasmodic power, sometimes to its purging, and sometimes to its astringent quality. But, with deference to these opinions, which have been numerous, I believe with Freind, that ipecacuanha increases the tendency of the humours to the skin; and therein consists its use in fluxes.

“ It will occur to every practitioner (as my recommendation is the use of *sudorifics*), that I mean a careful continued course of them, to keep up a *sweat* in extent proportioned to the violence of the disease; and not the trifling way of giving them in small doses, whilst the patient is exposed, and their operation neglected. It will occur also, that the sudorific employed must be suitable to the nature of the flux, the stage of it, and the habit of the patient.

“ When I propose a method for the cure of this disease by a course of sudorifics, I am aware of no objection that can possibly attend the novelty of the doctrine; excepting that it wants the sanction of the fathers of physic, and has to oppose the errors and prejudices of custom. But facts must support it, where this disease is most formidable, from the important consideration, that success in war, the safety of possessions, and the protection of commerce, depend on the preservation of soldiers and sailors, among whom the flux has ever been found to make the most dreadful havoc in the East and West Indies, and on all service in hot climates.

“ Though I have had a succession of opportunities in my private practice, since the year 1768, to prove the extent of the doctrine I advance; I have also had many opportunities to prove its efficacy in *that degree of dysentery* which is no-where to be seen but in *military camps and garrisons*; for which reason I shall illustrate the subject with a short account of the bloody flux, as it raged among the troops in Jamaica, in April, 1780, and particularly in the camp at Castile Fort, with the method that I followed in the treatment.

“ This flux will appear to want almost all the usually-conceived remote causes of a dysentery; but it will be found, with the immediate one, common to all.

" The state of the human frame for some time prior to the above period, underwent a multitude of diurnal transitions, from the absence or presence of a violent sea-breeze. The weather was now remarkably dry, hot for the season of the year, and at times sultry. It was impossible to use the least exercise without being heated; and it was almost impossible to get heated without being immediately chilled by the breeze*.

" It is the soldier's life to be much exposed, and it is his custom to be careless of himself. When he is fatigued or heated, he hastens to cool himself in the breeze or night-air, and perhaps throws off his clothes, and often lies down and sleeps in that condition. If he is wet, he dries his clothes, linen, and skin, together. By these means, perspiration, the great fountain of health in hot climates, is suddenly stopped, and febrile strictures occupy the whole surface of the body.

" A flux following these *data* must distinguish itself by an inflammatory diathesis, and its progress will consequently be rapid.

" The *general symptoms* were a chilliness in the beginning, succeeded by feverish heats; gripings, and frequent small motions; sickness of the stomach, and sometimes retchings; copious purging soon followed, with green, brown, or yellow watery stools, these were now mixed with or succeeded by great discharges of blood; several ounces of pure arterial blood were voided in a stream every half hour or hour; and some patients bled to death in this manner. The stools varied in foetor and appearance, according to the periods of the disease, and as they were more or less retained. A considerable degree of fever brought on the disease, and accompanied it with some; with others but little. Small bloody slimy stools continually harassed the patient in the last stages, particularly at nights. The tongue was greatly furred, and sometimes of a brown or black colour. Aphthæ appeared but seldom. This is the general account of those who experienced the violence of the disease, and survived the first week; but many who were seized at the setting in of the flux that spring perished in three or four days.

" The *curative indications* are to cleanse the intestines, and to cause a revulsion to the surface of the body. When the disease is rapid, the cure depends on performing these things as speedily as possible.

" Experience having shewn that the common methods and medicines hitherto used fall far short, in violent dysenteries, of obtaining the important point of revulsion in proper time, and

* When the breeze is violent, and what is called *fiery*, it checks perspiration, when people are exposed to it, in an inactive situation, making the skin dry and parched, and causing a feverish sensation.

supporting it, the practice will still be deficient, if we cannot find means adequate to these purposes.

“ The inductive considerations are to *bleed* whenever it can be done with safety ; to cleanse the *primæ viæ* ; to check the impetus with which the circulation is determined on the intestines, distending and bursting the coats of the distributing branches of the mesenteric arteries ; to remove the spasm from the vessels of the surface of the body, and to cause a diversion there. All these must be done immediately, that the revulsion may be effectual.

“ Bleeding being an operation of great consequence in the flux, the cure is generally begun with it, repeating it as the symptoms authorize. There are but few instances where it may not safely be done in the beginning of the disease ; observing only ‘ *non quæ atas sit, sed quæ vires sint* *.’ The necessity is obvious, where the patient is plethoric, with much fever, full pulse, and severe pains.

“ After bleeding, a vomit of ipecacuanha is to be given, which commonly relieves the stomach from a load of acid, poraceous, bilious impurities. But our great expectation from vomiting is, that its action on the muscular fibres of the stomach forces open the extreme arterial capillaries, forwards the circulation to the surface of the body, and induces a sweat. This, the invariable effect of vomits, has not been noticed by the ancients ; and has never been by the moderns applied to the end I propose in the cure of intestinal diseases. An opiate, after its operation, is necessary.

“ After the vomit and opiate, it is proper to empty the bowels, but with caution, in case the patient be weak ; and in such a manner as not to increase the determination of the blood there, and divert it from the surface ; for then we should lose the ground gained by the vomit, and counteract our principal design. An antimonial that acts much upon the skin, and purges at the same time, is what I always use.

“ The *primæ viæ* being cleansed, and the revulsion begun, it must be supported by sudorifics, that the disease may be thrown off by sweat. This will be effected by uniting an opiate with a diaphoretic, and administering it as occasion requires. Laudanum and antimonial wine combined is a medicine that causes little or no irritation, and is a pleasant and certain diaphoretic. It is generally necessary in the flux, when a sweat is intended by antimonial or other emetic medicines, in small doses, to add laudanum, to take off their irritation ; by which means their doses and effects may be greatly extended.”

* Cels. Lib. II. Cap. 10.

The doctor speaks of James's Powder as admirably calculated to answer the first intentions in the treatment of dysentery, since it possesses this great advantage, that though it effectually cleanses the *primæ viæ*, if properly given, it never fails at the same time to excite a plentiful sweat; and it is this double operation, he thinks, that renders it preferable to other emetics.

"When the diaphoresis is begun," says Dr. Moseley, "I cover my patient, if a soldier, with a blanket, and take care that the wind is not admitted directly upon him. I do not suffer him to uncover himself, but order whatever he wants to be brought to him; and supply him copiously with warm barley-water, mint, sage, balm, or oatmeal tea; and now and then give him a basin of gruel, or thin flour pap, with a spoonful or two of good sound white wine in it, as free as possible from acidity.

"When the sudorific process has been successfully continued, all the symptoms grow milder; and if the patient break out in a rash, or efflorescent eruptions, or boils, the disease will soon be removed.

"Should it be objected, that uncovering and exposing the patient while sweating, when he rises to go to stool, is an inconvenience which militates against my doctrine, I answer, that where there are proper attendants and utensils, the patient need not be exposed, nor move from his bed; and that, when once a complete and universal sweat is raised, the necessity for exposing the patient at all will soon be at an end, as the disease sometimes suddenly disappears.

"In the West Indies, in the presence of several of the officers of different regiments, who were desirous to be spectators of a fact so interesting to the army, a soldier has been taken in the worst condition of the disease, with blood running from him as in an hæmorrhage from a wound, and in the utmost agony; I have given him three grains of the common glass of antimony, finely prepared, and made into a small pill. This perhaps has operated upwards and downwards; but, in promoting its operation to the skin, those other operations ceased, and a violent sweat has ensued; which was kept up by warm herb teas, and now and then small doses of laudanum, which may always be given with safety, and without any of its usual inconveniences, while the patient is sweating, which is a fact worthy the attention of practitioners. Even the first stool, after the sweating has been raised, has been less bloody, and the third or fourth frequently scarcely tinged. Such is the power of *revulsion*.

"If the flux continue obstinate, and the sweats do not go on kindly, it will not only be requisite to carry off the morbid humours by a dose of the antimonial purgative, but repeated vomits of ipecacuanha are to be given. In this case the circulation has

not been enough diverted from the intestines to produce a full and sufficient diaphoresis: it is therefore necessary to give a fresh impulse to the fibres by the action of vomiting; for, in vomiting, the action of the stomach, and the contraction of the abdominal viscera, force the blood to the surface, and upper parts of the body.

"Another cause of obstinacy in the flux is *indurated feces*, lodged in the intestines; and though the patient shall have been repeatedly purged, and taken nothing but fluids during his illness, it is amazing what *scybala*, or lumps of excrement, will sometimes be brought away, by a repetition of the antimonial purgative, after an interval of several days: for which reason, when the sweats have been plentiful, the pulse moderate, and the flux still continues, we may suspect this to be the case."

The extraordinary appearance of these balls of excrement having induced some writers to differ concerning their cause and component parts, the doctor bestows some observations on their mistakes. He then proceeds thus:

"I pursue the method I have related," says he, "regulating it as occasion may require, or particular occurrences suggest, until the patient is in a condition for bark, and other tonics and corroborants.

"The flux will continue troublesome in some subjects from mere weakness and relaxation of the vessels, without any material gripings, or feverish symptoms: here I never hesitate to give bark, with snake-root and wine.

"In all complaints of the bowels, particularly in the dysentery, bark should never be given in substance; it causes irritations and gripings; and either brings back the disease, or fills the patient with obstructions: a strong decoction, therefore, is ever to be preferred.

"As the flux is always increased at the approach of night, so, for some time after it has abated, the pulse quickens, and the patient grows feverish in the evening. This is an admonition that we should desist from bark, and give a gentle diaphoretic at nights.

"The remaining acrimony which sometimes keeps up a small irritation, after every other symptom is removed, may be corrected with absorbents, and carried off before the use of bark, or at any subsequent period if it should recur, with rhubarb and magnesia, or any mild cathartic.

"During the convalescent state of those who have been much reduced, and to prevent a relapse, a flannel shirt or jacket, worn next the skin, is very beneficial. When the bowels have suffered considerably by the flux, and cannot recover their tone, but from weakness are subject to returns of the disease, or to diarrhoea or tenesmus, on the least exposure to cold, a flannel jacket

next the skin will be found almost a certain remedy and preventive.

“ It is to be observed, when the attack is sudden and violent, it is often necessary to overtake the disease with opiates and cordials, before any recourse to pathological reasoning is to be adopted; otherwise the patient may be exhausted, and sunk beyond the recovery of medicine.”

Here the doctor expresses his concern, “ that the aggravated symptoms which return in the morning have not put an end to the custom, in the army and navy practice, of giving large doses of opium at night. When opium,” says he, “ is given alone, and continued for any time after its cordial effects are over, it weakens the vessels, injures the nerves, causes either a strangury, or a paralysis of the bladder, and lowers the powers of life; the humours, instead of being dissipated, accumulate in the diseased parts, and, when the constipation it has created is off, the blood rushes forth with increased violence, and accelerates the patient’s end.”

“ Degner says (in his History of the Dysentery at Nimeguen, in 1736, page 18), with many of his patients there was an entire suppression of urine for six, eight, ten, or fourteen days. Several writers mention suppression of urine among the symptoms of this disease; but as I have never seen any thing like it occur, where opiates or astringents had not been improperly used, I consider it rather as a symptom of mismanagement than of the disease. From opium I have often observed this effect; and have speedily removed it by increasing perspiration, and giving a cup of strong, clear, good coffee, every few hours.

“ In the beginning of the disease the intestines are in a state of inflammation; and, in the farther advanced state of it, we find the mesenteric vessels and glands enlarged and obstructed, the intestines thickened, their coats tumified, relaxed, abraded, and hastening into a state of ulceration or sphacelation. Opium, in these situations (beyond which the disease is never curable), must increase and multiply every evil.

“ The real use of opium is to arrest the hurry of the disease, to procure time to put some rational method of cure into execution, to take off the irritating property of other medicines, and to give them their intended effect, and to ease those *termina* which are sometimes intolerable. Here the matchless power of opium raises our admiration.

“ In the preceding history it will appear, that the flux is not confined to particular seasons and situations; that what have been commonly considered as remote causes, only give the type to the disease; and that its general cause, producible various ways, is *obstructed perspiration*.

“ The flux that prevailed in Jamaica, in the autumn of the

year 1779, was attended with many of those causes that are called remote. August, September, October, and the beginning of November, were unusually close and sultry, with frequent rains. The great discharge of perspiration from the rarefaction of the blood, in such a season, relaxes the extremities of the perspiratory vessels, and subjects them to sudden spasm and collapson.

“ The *camp dysentery*, in low, damp, marshy countries in Europe, in the autumnal season, has all the concomitants and type of a flux in hot climates, after heavy rains.

“ There will be less disposition to inflammation, and the fluids will tend more to a state of dissolution;—yet it is a *fever turned upon the intestines*, for want of a free and regular perspiration, from the thickness and moisture of the atmosphere. The irritation thus produced on the bowels soon causes a violent determination of blood; and as the circulation is diminished in the vessels of the surface of the body, it is increased in those of the intestines.

“ By this increased action of the arteries, the progress of the blood is impeded in the minute ramifications of the vessels; hence extravasation and hæmorrhage: an immediate revulsion is therefore necessary; it must be extensive, but suitable, that there may be no mischief done, by increasing the debility incident to the disease.

“ *Bleeding* cannot be performed on every subject, nor in every stage or condition of a flux; cathartics only cleanse the affected parts; emetics are limited to answer particular purposes; diaphoretics have never been used in a manner or an extent sufficient to produce an effect; and the custom of exposing patients to partial currents of cold air, in hot climates, prevents nature from doing any thing towards the cure.

“ The *type* of the disease being duly attended to will indicate the quantity and nature of the evacuations necessary to facilitate revulsion; and it is safely and effectually completed by a careful continued course of *sudorifics* and dilution, carried on in extent proportioned to the disease.”

We shall add to our selections on this important subject a short extract from the second and third parts of Dr. Moseley's Dissertation. Speaking of the success of this practice at the time of a prevailing dysentery in Jamaica, in the year 1780, he says:

“ In the treatment of the dysentery (in which, notwithstanding the vast numbers that were attacked by it, we did not lose one man in the acute state of the disease), whether attended with fever or not, I proceeded with the sudorific process, as I had done in the spring. This autumnal flux, like all fluxes that I have seen, exerted its influence most on those who were most exposed to the weather.

“ Dysenteries, as well as other disorders, in hot climates, in

autumn, partake more of a putrid than of an inflammatory nature; and perspiration is raised with less difficulty, and with gentler medicines, than it is at other times, when the fibres are more rigid, and the air more dry and elastic; for which reason, mild diaphoretics, such as antimonial or ipecacuanha wine and laudanum, were used in the camp this autumn; and evacuations, particularly bleeding, were sparingly made. Sometimes the sweat raised by the first vomit of ipecacuanha, assisted by diluting with barley-water, mint, balm, or sage tea, put a stop to the disease.

“ I never gave ipecacuanha as a vomit, nor glass of antimony as a purge, in the dysentery, latterly, in the West Indies; but, previously to their operation, I ordered the patient to his bed, and disposed him for sweating. This I found by experience always insured that operation on which the cure depends; and sometimes carried the whole effect of the medicine off that way, without either vomiting or purging, and with it the disease.”

That this practice is no less worthy of being adopted in our own climate is evident from the following facts:

“ In London, during winter,” says Dr. Moseley, “ a person had taken a dose of Glauber’s salt, and the same evening went into a warm bath; after which he returned to his own house. In the night he was seized with pains in the bowels, and a constant irritation to go to stool. The next day he voided blood, and bloody mucus, and had a complete dysentery. He took chalk julep and laudanum for two days; but the symptoms increasing, he had bloody excretions almost every quarter of an hour, with great straining, anxiety, lassitude, and fever. Being consulted, I advised him to go to bed, and to take ten grains of James’s powder; to cover himself well; and to dilute and promote a sweat; and to continue the sweating by repeated doses of James’s powder every four hours, drinking plentifully of warm balm or mint tea. The James’s powder made him retch a little at first, and he continued to have several griping stools, until the powder produced a plentiful sweat; after which the pains abated; he had no stool for twenty-four hours; he took three doses of the powder, and was cured.

“ Whether antimonial diaphoretics or ipecacuanha be used to promote sweating, must depend on the habit of the patient, and the nature of the disease. But for the ordinary dysenteries, which prevail in European climates, particularly in autumn, ipecacuanha is generally to be preferred.

“ It is my common practice, now in London, when called to a dysenteric patient, to order him to bed, and to give him a scruple, or half a dram, or two scruples, of ipecacuanha; and direct that the operation of sweating, rather than vomiting,

should be promoted. As vomiting always produces sweating, the patient being in bed, it is easily supported by diluting; and I have often, with the sweating caused by a single large dose of ipecacuanha only, cured the dysentery.

“There is no danger of inflammation, and its consequences, when a flux ceases suddenly after sweating, as there is when it has been suppressed by opiates and astringents. In plethoric habits an increase of fever sometimes succeeds, which is soon removed by bleeding, and a continuation of diaphoretics and dilution. Sometimes, from the suddenly suppressing the flux, though there shall be neither fever nor dysentery, while the patient remains in bed, some dysenteric symptoms will return as soon as he gets up, or gets into the air.” These are easily removed by a table-spoonful of Dr. Moseley’s *vitriolic solution* (No. 196.), every eight hours, with, occasionally, a little chalk julep and laudanum.

The proportion of either the vitriol or alum may be regulated according to circumstances; that is, when evacuations are required, the quantity of alum may be diminished, or even entirely omitted; and when great astringency is required, the quantity of alum is to be increased, and that of the vitriol and zinc diminished. Dr. Moseley frequently directs equal parts of these ingredients in the above quantity. The dose is from a table-spoonful to a tea-spoonful, according to the strength and age of the patient, which is taken every morning fasting, and in some cases repeated every six hours, without any addition or alteration, by diluting or mixing it with any other liquor.

“In *slight dysenteries*,” says the doctor, “and when the *sudorific process* could not be put in practice, I have used this solution with the utmost success; giving it at first without the alum, in sufficient doses to cause evacuations, and afterwards with the alum in nauseating doses, frequently, with opiates at night. This I have found far more efficacious in the dysentery than emetic tartar, ipecacuanha, rhubarb, or salts, as evacuants, in whatever manner combined or administered.

“But where a diarrhoea has been of long standing, the cure necessarily must be performed by slow degrees; then a dose every morning fasting, only, or every night and morning, will be sufficient. It is, in inveterate cases, to be continued for weeks or months, omitting it now and then for a few days.

“In table-spoonful doses it generally causes a vomiting, or great nausea, and sometimes a purging, for the first few times of taking it. When the stomach is foul, vomiting may be encouraged by drinking chamomile-flower tea, otherwise that is unnecessary. If, after taking it several times, it still create vomiting, or more nausea than is easily supportable (for some nausea is intended), the dose must be diminished. If it continue to purge

more than is proper, or cause any griping, neither of which often happens, a few drops of laudanum must be given occasionally, or every night at bed-time."

With the following observations on the *effects of nitrous acid and opium*, in the cure of dysentery, published by Mr. Hope, of Chatham, in the Medical and Physical Journal, we propose to conclude what we have to offer on the dysentery. Of this peculiar remedy Mr. Hope says,

"The first occasion of its use was remarkable: a young man, of sobriety and temperance, had suffered long with dysentery, and had been attended by a friend of mine for some time, who recommended those remedies that high authority and experience pointed out for relief; but finding no advantage, he sent for me, expecting more might be done. Nothing, however, recommended was successful; and as I could but go over the old ground, no prospect of relief appeared: indeed his death was daily expected. At this time, a woman who lived with him was attacked with dysentery, accompanied with extreme thirst. An acid occurred to my thoughts; but fearing it might produce unpleasant effects, opium was added:

(No. 236.) R. Acid. nitros. ʒij.
Opii gr. ij.
Aq. puræ ʒij.

Misce cap. coch. j. ter 4terve die in quovis vehiculo.

"The effect produced was so great, that my dying patient, unknown to me, begged to partake with her; and when I saw him next morning, which, to my great surprise, was with a cheerful countenance, he told me, that 'he hoped if ever I had a patient ill with his complaint, I would never fail to send those drops that I had sent for the woman; they had relieved his pain at the first dose, and he was sure he should mend now, for they had saved his life this time.' This was the only medicine he took, and in a few days he was able to walk about his room.

"In a third case, I tried the acid without the opium; but it did not succeed. I then united them, and it effected immediate relief.

"I was still unwilling to persuade myself into the belief of its being a specific remedy, until a case of so extraordinary a nature occurred, as compelled me to decide unequivocally in its favour. A young lad, sixteen years of age, fell over a dredging-boat into the water in the month of July last. Indisposition succeeded; but to what degree I could not determine, as another practitioner was at first called in to his assistance. Finding no relief, they applied to me, requesting my attendance. This was near a month after the accident. The remedies I prescribed failed in their efficacy. His friends, despairing of relief, requested me not to trouble myself to attend them any more (they lived six miles from

me); saying he must be left to his fate, being assured a day or two more would finish the scene. At this time I recommended the acid and anodyne; and with great difficulty it was that they could be persuaded to give it a trial. Twenty-four hours had not elapsed before he began to find relief; so that, before the expiration of the fourth day, he left off the remedy. The disease returned: reapplication to the drops again removed it; and in a very short space of time, without any other medicine intervening, he became as hearty as ever he had been. The manifest advantage of the medicine was recognized by the parents; nor did they spare unjust reflections that I had not employed it before."

When this disease is complicated with an intermittent, and is protracted from that circumstance chiefly, it is to be treated as an intermittent by administering the Peruvian bark, which, in the earlier periods of the disease, is hardly to be admitted.

When complicated with hepatitis, the cure is to be attempted by mercury. See HEPATITIS.

CLASS II. NEUROSES.

ORDER I. COMATA.

Comata, *Sauv.* Class VI. Ord. II. *Sag.* Class IX. Ord. V.

Soporosi, *Lin.* VI. Class Ord. II.

Adynamia, *Vog.* Class VI.

Nervorum resolutiones, *Hoffm.* III. 194.

Affectus soporosi, *Hoffm.* III. 209.

Motuum vitalium defectus, *Junck.* 114.

GENUS XLII. APOPLEXIA.

The APOPLEXY.

Apoplexia, *Sauv.* gen. 182. *Lin.* 101. *Vog.* 229. *Boerb.* 1007. *Junck.* 117. *Sag.* gen. 288. *Wepfer.* Hist. Apoplecticorum.

Carus, *Sauv.* gen. 181. *Lin.* 100. *Vog.* 231. *Boerb.* 1045. *Sag.* gen. 287.

Cataphora, *Sauv.* gen. 180. *Lin.* 99. *Vog.* 232. *Boerb.* 1048. *Sag.* gen. 286.

Coma, *Vog.* 232. *Boerb.* 1048.

Hæmorrhagia cerebri, *Hoffm.* II. 240.

To this genus also Dr. Cullen reckons the following diseases to belong.

Catalepsis, *Sauv.* gen. 176. *Lin.* 129. *Vog.* 230. *Sag.* gen. 281. *Boerb.* 1036. *Junc.* 44.
 Affectus cerebri spasmodico-ecstatis, *Hoff.* III. 44.
 Ecstasis, *Sauv.* gen. 177. *Vog.* 333. *Sag.* gen. 283.

The following he reckons symptomatic.

Typhomania, *Sauv.* gen. 178. *Lin.* 97. *Vog.* 23. *Sag.* gen. 284.
 Lethargus, *Sauv.* gen. 179. *Lin.* 98. *Vog.* 22. *Sag.* gen. 215.

This disease appears under modifications so various as to require some observations with respect to each.

Sp. I. The Sanguineous Apoplexy.

1. *Description.*] In this disease the patients fall suddenly down, and are deprived of all sense and voluntary motion, but without convulsions. A giddiness of the head, noise in the ears, corruscations before the eyes, and redness of the face, usually precede. The distinguishing symptom of the disease is a deep sleep, attended with violent snoring; if any thing be put into the mouth, it is returned through the nose; nor can any thing be swallowed without shutting the nostrils; and even when this is done, the person is in the utmost danger of suffocation. Sometimes apoplectic patients will open their eyes after having taken a large dose of an emetic; but if they shew no sign of sense, there is not the least hope of their recovery. Sometimes the apoplexy terminates in an hemiplegia; in which case it comes on with a distortion of the mouth towards the sound side, a drawing of the tongue the same way, and stammering of the speech. Dissections sometimes shew a rupture of some vessels of the meninges, or even vessels of the brain itself; though sometimes, if we may believe Dr. Willis, no defect is to be observed either in the cerebrum or cerebellum.

2. *Causes, &c.*] The general cause of a sanguineous apoplexy is a plethoric habit of body, with a determination to the head. The disease, therefore, may be brought on by whatever violently urges on the circulation of the blood; such as surfeits, intoxication, violent passions of the mind, immoderate exercise, &c. It takes place, however, for the most part, when the venous

plethora has subsisted for a considerable time in the system. For that reason it commonly does not attack people till past the age of sixty; and that whether the patients are corpulent, and have a short neck, or whether they are of a lean habit of body. Till people be past the age of childhood apoplexy never happens.

3. *Prognosis.*] This disease very often kills at its first attack; and few survive a repetition of the fit: so that those who make mention of people who have survived several attacks of the apoplexy, have probably mistaken the epilepsy for this disease. In no disease is the prognosis more fatal; since those who seem to be recovering from a fit are frequently and suddenly carried off by its return, without either warning of its approach, or possibility of preventing it. The good signs are when the disease apparently wears off, and the patient evidently begins to recover; the bad ones are when all the symptoms continue and increase.

4. *Cure.*] The great object to be aimed at is to restore the connection between the sentient and corporeal parts of the system; and when interruption to this connection proceeds from compression of the brain by blood, this is to be attempted, in the first place, by large and repeated bleedings from the jugular veins and temporal arteries, and also by cupping. Blisters should be applied to the head, or between the shoulders; after which the same internal remedies are to be used as in the serous apoplexy, after mentioned. The body is to be kept in a somewhat erect posture, and the head supported in that situation.

Sp. II. The Serous Apoplexy.

Apoplexia pituitosa, *Sauv.* sp. 7. Apoplexia serosa, *Preysinger*,

sp. 4. *Morg.* de causis, &c. IV. LX.

Carus a hydrocephalo, *Sauv.* sp. 16.

Cataphora hydrocephalica, *Sauv.* sp. 6.

Cataphora somnolenta, *Sauv.* sp. 1.

Lethargus literatorum, *Sauv.* 7. *Van Swieten* in Aphor. 1010.

2 γ and 3 α .

1. *Description.*] In this species the pulse is weak, the face pale, and there is a diminution of the natural heat. On dissection the ventricles of the brain are found to contain a larger quantity of fluid than they ought; the other symptoms are the same as in the former.

2. *Causes, &c.*] This may arise from any thing which induces a debilitated state of the body, such as depressing passions of the mind, much study, watching, &c. It may also be brought on by a too plentiful use of diluting acidulated drinks. It doth not, how-

ever, follow, that the extravasated serum abovementioned in the ventricles of the brain is always the cause of the disease, since the animal humours are very frequently observed to ooze out in plenty through the coats of the containing vessels after death, though no extravasation took place during life.

3. *Prognosis.*] This species is equally fatal with the other; and what hath been said of the prognosis of the sanguineous, may also be said of the serous apoplexy.

4. *Cure.*] In this species venæsection can scarcely be admitted: acrid purgatives, emetics, and stimulating clysters, are recommended to carry off the superabundant serum; but in bodies already debilitated, they may perhaps be liable to the same exceptions with venæsection itself.

Dr. Saunders recommends the following:

(No. 237.) R Extract. Colocynth. comp. gr. xv.

Calomelan. gr. iij.

Ol. essential. Piment. gtt. ij.

Sint pilulæ iv. primo mane sumendæ.

(No. 238.) R Colocynthid. ʒj.

Aquæ fervent. ʒx.

Coque per sextam horæ partem, et liquori colato adhuc tepido admisce,

Syr. e spin. cer. ʒj. ut fiat Enema statim injiciendum.

(No. 239.) R Infus. Sennæ tartaris. ʒij.

Tinct. Jallap.

Syr. e spin. cervin. sing. ʒij. Misce, Hauriatur pro doli.

(No. 240.) R Ari rad. recent,

Arab. Gum. pulv. sing. ʒiv.

Sperm. Ceti ʒij.

Aq. Pulegii ʒviiss.

Syr. Simpl. ʒiij.

Terendo in mortario marmoreo fiat Emulsiō, cujus capiat cochlearia duo vel tria bis terve indies.

Volatile salts, cephalic elixirs, and cordials, are also prescribed; and in case of a hemiplegia supervening, the cure is to be attempted by aperient ptisans, cathartics, and sudorifics; gentle exercise, as riding in a carriage; with blisters and such stimulating medicines as are in general had recourse to in affections originally of the paralytic kind.

Dr. Hugh Smith offers the following formulæ, to be adopted according to circumstances.

He says, the *pituitous* apoplexy requires a very different treatment from the *sanguineous*: blood-lettings must be either entirely omitted, or very sparingly used; as the intention of cure will con-

first in attenuating the pituitous lentor, promoting its absorption, and expelling it from the body.

The stronger emetics, and warm smart purgatives will be advisable, with sternutatories, and a liberal use of blisters to the head, back, and extremities; and sinapisms, or strongly stimulating applications, to the feet.

The aromatic, stimulating, and warm cephalic and nervous medicines, he alleges, bid of all others the fairest to relieve the patient.

(No. 241.) R Antim. Tartar. gr. iij.
Pulv. rad. ipecacuanhæ, ʒß.

M. ft. pulv. emetic.

(No. 242.) R Tinct. sacrae, ʒij.
Tinct. Jalap. ʒiij.
Spt. Lavend. ʒß.

M. ft. haustus mane sumendus, et pro re nata repetendus.

(No. 243.) R Fol. Tabaci ʒij.
Pulp. colocynth. ʒß.
Coq. ex aquæ fontanæ q. s. ad colatur. ʒviij.
Adde Syr. e spin. cerv. ʒjß.

M. ft. Enema pro re nata injiciendum.

(No. 244.) R Rad. hellebor. alb. in pulv. trit.
Folior. asari, aa ʒj.
Hydrarg. vitriolat. gr. vj.

M. ft. pulv. sternutator. cujus paucill. subinde usurpetur.

(No. 245.) R Lact. ammoniac. ʒj.
Aq. cinnam. ten. ʒvj.
Spt. vol. fœtid. ʒj.

M. ft. haust. sexta quaque hora sumendus.

(No. 246.) R Pulv. ari comp. ʒß.
Pulv. aromatic. gr. vj.
Ol. lavend. gtt. j.

Syr. zingib. q. s. ut ft. Bol. ter quaterve de die sumend.

(No. 247.) R Castor. Russ. ʒj.
Pulv. aromatic. ʒß.

M. ft. pulv. sexta quaque hora sumend. ex Julep. seq. coch. iv.

(No. 248.) R Aq. Pulegii simp. ʒvj.
Tinct. valerian. vol. ʒj.
Syr. croci, ʒvj. Misce fiat julep.

When the symptoms are relieved, a large spoonful of mustard seed may be swallowed morning and evening; and the stomach purges may be continued for some time to prevent a relapse.

The doctor enumerates a third species, which he denominates the *spasmodic* apoplexy. This is to be relieved by relaxing the spasm, and promoting a free circulation through the vessels of

the encephalon. The remedies recommended for the relief of a pituitous apoplexy will be conducive to these purposes. Blood-letting, if necessary; afterwards an emetic, with a blister to the head and sinapisms to the feet, and warm nervous remedies, will bid the fairest to answer the intention.

Sp. III. *Hydrocephalic Apoplexy, or Dropsy of the Brain.*

Hydrocephalus interior, *Sauv. sp. i.*

Hydrocephalus internus, *Whytt's works*, page 725. London Med. Obs. vol. iv. art. 3, 6, and 25. *Gaudelius de hydrocephalo*, apud *Sandifort Thesaur.* vol. ii.

Hydrocephalus acutus, *Quin. Diss. de hydrocephalo*, 1779.

Asthenia a hydrocephalo, *Sauv. sp. 3.*

i. *History and description.*] This disease has been accurately treated within these few years by several eminent physicians, particularly the late Dr. Whytt, Dr. Fothergill, and Dr. Watson; who concur in opinion, with respect to the seat of the complaint, the most of its symptoms, and its general fatality. Out of twenty patients that had fallen under Dr. Whytt's observation, he candidly owns that he had been so unfortunate as to cure only one who laboured under the characteristic symptoms of the hydrocephalus; and he suspects that those who imagine they have been more successful, had mistaken another disease for this. It is by all supposed to consist in a dropsy of the ventricles of the brain; and this opinion is fully established by dissections. It is observed to happen more commonly to healthy, active, lively children, than to those of a different disposition.

Dr. Whytt supposes that the commencement of this disease is obscure; that it is generally some months in forming; and that, after some obvious urgent symptoms rendering assistance necessary, it continues some weeks before its fatal termination. This, in general, differs from what has hitherto been observed by Dr. Fothergill; the latter informing us that he has seen children who, from all appearance, were healthy and active, seized with this distemper, and carried off in about fourteen days. He has seldom been able to trace the commencement of it above three weeks.

Though the hydrocephalus be most incident to children, it has been sometimes observed in adults; as appears from a case related by Dr. Huck, and from some others.

When the disease appears under its most common form, the symptoms at different periods are so various, as to lead Dr. Whytt to divide the disease into three stages, which are chiefly marked by changes occurring in the condition of the pulse. At the beginning it is quicker than natural; afterwards it becomes uncommonly

flow; and towards the conclusion of the disease it becomes again quicker than natural, but at the same time very irregular.

Those who are seized with this disease usually complain first of a pain in some part below the head; most commonly about the nape of the neck and shoulders; often in the legs; and sometimes, but more rarely, in the arms. The pain is not uniformly acute, nor always fixed to one place; and sometimes does not affect the limbs. In the latter case, the head and stomach have been found the most disordered; so that when the pain occupied the limbs, the sickness or head-ach was less considerable; and when the head became the seat of the complaint, the pain in the limbs was seldom or never mentioned. Some had very violent sicknesses and violent head-achs alternately. From being perfectly well and sportive, some were in a few hours seized with those pains in the limbs, or with sickness, or head-ach, in a slight degree, commonly after dinner; but some were observed to droop a few days before they complained of any local indisposition. In this manner they continued three, four, or five days, more or less, as the children were healthy and vigorous. They then commonly complained of an acute deep-seated pain in the head, extending across the forehead from temple to temple; of which, and a sickness, they alternately complain in short and affecting exclamations; dozing a little in the intervals, breathing irregularly, and sighing much while awake. Sometimes their sighs, for the space of a few minutes, are incessant.

As the disease advances, the pulse becomes slower and irregular, the strokes being made both with unequal force and in unequal times, till within a day or two of the fatal termination of the disorder, when it becomes exceeding quick; the breathing being at the same time deep, irregular, and laborious. After the first access, which is often attended with feverish heats, especially towards evening, the heat of the body is for the most part temperate, till at last it keeps pace with the increasing quickness of the pulse. The head and præcordia are always hot from the first attack. The sleeps are short and disturbed, sometimes interrupted by watchfulness; besides which there are startings.

In the first stage of the disease there seems to be a peculiar sensibility of the eyes, as appears from the intolerance of light. But in the progress of the disease a very opposite state occurs: the pupil is remarkably dilated, and cannot be made to contract by the action even of strong light; such, for example, as by bringing a candle very near to it. In many cases there is reason to believe that total blindness occurs: often also the pupil of one eye is more dilated than that of another, and the power of moving the eyes is also morbidly affected. Those children, who were never observed to squint before, often become affected with a very great degree of strabismus. The patients are unwilling to be disturbed for any

purpose, and can bear no posture but that of lying horizontally.— One or both hands are most commonly about their heads. The urine and stools come away insensibly. At length the eyelids become paralytic, great heat accompanied with sweat overspreads the whole body; respiration is rendered totally suspirious, the pulse increases in its trembling undulations beyond the possibility of counting, till the vital motions entirely cease; and sometimes convulsions conclude the scene.

Many of the symptoms above enumerated are so common to worm-cases, teething, and other irritating causes, that it is difficult to fix upon any which particularly characterise this disease. The most peculiar seem to be the pains in the limbs, with sickness and incessant head-ach; which, though frequent in other diseases of children, are neither so uniformly nor so constantly attendant as in this. Another circumstance observed to be familiar, if not peculiar to this distemper, is, that the patients are not only costive, but it is likewise with the greatest difficulty that stools can be procured. These are generally of a very dark greenish colour, with an oiliness or a glassy bile, rather than the slime which accompanies worms; and they are, for the most part, extremely offensive. No positive conclusion can be drawn from the appearance of the urine; it being various, in different subjects, both in its colour and contents, according to the quantity of liquor they drink, and the time between the discharges of the urine. From their unwillingness to be moved, they often retain their water twelve or fifteen hours, and sometimes longer. In complaints arising from worms, and in dentition, convulsions are more frequent than in this disorder. Children subject to fits are sometimes seized with them a few days before they die. Sometimes these continue twenty-four hours incessantly, and till they expire.

2. *Causes.*] The causes of internal hydrocephalus are very much unknown. Some suppose it to proceed from a rupture of some of the lymphatic vessels of the brain. But this supposition is so far from being confirmed by any anatomical observation, that even the existence of such vessels in the brain is not clearly demonstrated. That lymphatics, however, do exist in the brain, cannot be doubted; and one of the most probable causes giving rise to an accumulation of water in the brain is a diminished action of these. Here, however, as well as in other places, accumulation may also be the consequence of augmented effusion, and in this way, an inflammatory disposition, as some have supposed, may give rise to the affection. But from whatever cause an accumulation of water in the ventricles of the brain may be produced, there can be no doubt that from this the principal symptoms of the disease arise, and that a cure is to be accomplished only by the removal of it. It is, however, probable, that the symptoms are somewhat varied by the position of the water, and that the affection of vi-

sion in particular is often the consequence of some morbid state about the *thalami nervorum opticorum*; at least, in many cases, large collections of water in the ventricles have occurred, without either strabismus, intolerance of light, or dilatation of the pupil. And in cases where these symptoms have taken place to a remarkable degree, while upon dissection after death but a very small collection of water was found in the ventricles, it has been observed that a peculiar tumid appearance was discovered about the optic nerves, which upon examination was found to arise from water in the cellular texture. This may have given compression producing a state of insensibility; but it may have been preceded, or it may even have originated from, some inflammatory affection of these parts, producing the intolerance of light.

3. *Prognosis and Cure.*] Till of late years, this disorder was reckoned totally incurable; but there are some who now allege, that *mercury*, if applied in time, will remove every symptom. This remedy was first thought of by Dr. Dobson of Liverpool, and afterwards employed apparently with success by Dr. Percival and others. The method of exhibiting it in order to effect a cure, as well as the inutility of other medicines, will fully appear from the following cases:

Case I. By Dr. Percival. "Sept. 4th, 1777. Master H. a child at the breast, aged seven months, has laboured about a fortnight under a slow irregular fever. His eyes have been now and then a little distorted; he has been affected with some degree of stupor; his gums have been inflamed and tender; and his mouth uncommonly dry. No tooth has yet made its appearance. An emetic has been administered; a blister applied to his back; and his belly has been kept soluble by repeated small doses of magnesia. During the action of the blister, he was thought to be much better, but he soon relapsed into his former state.

"About three o'clock this morning he was convulsed: at nine I saw him; and from his countenance instantly suspected a dropsy of the brain. The symptoms confirmed my apprehensions. His skin was hot; yet his pulse beat only seventy-eight strokes in a minute, which were irregular. The pupils of his eyes were considerably, but unequally, dilated; nor did they contract much when a lighted candle was suddenly held before them. He often squinted, especially with the right eye, and seemed to take no notice of any objects around him. He refused the breast, and seldom swallowed till the lips and tongue had been stimulated with a feather. During several days past, he had been frequently observed to rub the end of his nose when his hand was at liberty; and, notwithstanding his stupor, he had been uncommonly watchful. I examined his head, and found a manifest tumor of the bregma, which had never before been noticed. Convinced by all these circumstances that the child laboured under the hydrocephalus

internus, and that he was now in the second stage of that disorder, I directed ten grains of the *unguentum mercuriale mitius* to be rubbed into his thighs every three hours, till the mouth should be affected, and a tea-spoonful of the following mixture to be given whenever the convulsive symptom returned:

(No. 249.) ℞ Salis ammon. vol. ℥j.

Succi Limon. ʒi.

Mosch. (mucilage gum. Arabic. solut.) gr. vi.

Sacch. alb. q. s. ad gratiam. Misce.

“ Small blisters were applied on each side of the head, just below the bregma; and a folded rag, frequently moistened with brandy, was laid upon the tumor to promote absorption. An emetic had been given early in the morning, by which a large quantity of bile was discharged; and a vesicatory had also been applied to his leg.

“ Sept. 5th, nine o'clock. The child has had frequent convulsions in the night; his right eye is much distorted; and it has been remarked, that he seldom moves the right hand. The pulse beat 120 strokes in a minute. Two scruples of the mercurial ointment have been used, and he has taken five grains of musk. A large discharge of serum has been produced by the blisters. Five o'clock, P. M. the tumor of the head is sensibly diminished; the child's mouth is now moist, and often filled with saliva; and his tongue appears to be swollen. His pulse beat 146 strokes in a minute. I directed another blister to be applied to the head.

“ 6th. His convulsions have been much slighter; his eyes are frequently distorted; and the pupils of each are more contracted. The stupor is considerably abated; the child seems to take some notice, distinguishes taste, and swallows freely. The musk has been continued; and half a dram more of the mercurial ointment has been consumed. A clyster was injected last night, but ineffectually; I therefore prescribed a grain of jalap, mixed with an equal quantity of sugar, to be given every three hours, till a motion to stool succeeded.

“ 7th. The child has passed the night more comfortably, but not free from convulsions. His head has sweated profusely, and the blisters have run much. The tumor of the bregma is considerably reduced. The jalap operated gently last night, and the mercurial unction has been twice repeated. There is an evident mitigation of all the symptoms.

“ 8th. About eleven o'clock last night, the child was attacked with severe convulsions, which recurred frequently till six o'clock this morning. He has had a short sleep, and is now composed. His pulse beats 140 strokes in a minute; his heat is moderate; and his skin soft and perspirable. The mercurial ointment has been again used; but, though his gums and tongue are sore and very moist, his breath is not offensive. I directed a grain of calo-

mel to be immediately given, to procure a stool; and a blister to be applied to the occiput.

“ 10th. He has passed two nights almost entirely free from convulsions. Ten grains of the mercurial ointment have been again rubbed into his thighs. The dose of calomel occasioned three very offensive stools; and directions are given to repeat it, as he is again collive. The blister applied to the occiput, like the others, has produced a very copious discharge. The tumor of the head is now scarcely perceptible. Pulse 120.

“ 12th. At twelve o'clock last night, the convulsions recurred with greater violence than ever, and still continue. Two teeth have almost protruded through the upper, and the same number through the lower gum. Pulse 160, tremulous and irregular. I directed that the child should be immediately put into the warm bath, and that the following remedies should be administered:

(No. 250.) ℞ Infus. rad. valer. fortissimi ℥ii.

Asafœtid. ʒß. M. f. Enema statim injiciendum.

(No. 251.) ℞ Tinct. valer. volat. ℥ii.

Dentur guttæ iij. Subinde e cochleari parvulo infusi rad. valer. fylv. sub forma theæ parati.

“ The convulsions continued, but with less violence; and the child expired about one o'clock in the afternoon.”

On this case the doctor makes the following observations.

“ The deplorable case which I have related appears to have originated from the irregular action produced in the system by denition, and from the want of a due secretion of saliva in the mouth, by which the fluid discharges were probably increased in the ventricles of the brain. That these discharges were diminished, and that the extravasated water was absorbed, by the powerful action of the mercury, may be presumed from the mitigation of all the symptoms which succeeded the salivation. And I am inclined to believe, that the convulsions under which the child expired were more owing to the irritation of his gums by the protrusion of four teeth, than to any remaining water in the brain; for the tumor of the head had entirely disappeared, and after death there was a manifest depression of the bregma. During the space of a week, 110 grains of the *unguentum mercuriale mitius*, which contains about 22 grains of mercury, was consumed in the usual way of friction. Perhaps half this quantity might be absorbed, and carried into the course of circulation; to which may be added, part of the two grains of the calomel administered internally. The symptoms of the salivation were not violent; and the effects of the mercury did not appear formidable or alarming, even to the parents of the child, who were apprised of the nature of the disorder, and fully approved of the trial of this method of treating it.”

Case II. By Dr. Dobson.—“ On the 13th of Feb. 1775, I

was called to the only son of Mr. C. a gentleman of this place: the child was between three and four years of age; had been indisposed about eight days; and had frequently complained of pain in his head, and weariness and pains in his limbs; had been sick by fits, and sometimes vomited; was feverish, and could not bear the light.

"I was much alarmed on hearing this account, as the *hydrocephalus internus* had already proved fatal to three children of this family, who had all been under my care. And that this had been the disease was evident, both from the symptoms and the appearances on dissection. But my alarm was much farther increased on examining the little patient. The pulse I found very frequent and irregular. The head hot, the cheeks flushed, the pupils dilated, and a great degree of strabismus. There remained no doubt with respect to the nature of the disease.

"An emetic, some calomel powders, and a purgative, had been administered, without affording any relief. I directed the pediluvium, and emetic tartar, to be given in such doses as to excite nausea.

"Feb. 14th. The symptoms the same, with frequent startings, disturbed sleep, and tossing from side to side on the pillow. A blister was applied between the shoulders, the pediluvium repeated, and the emetic tartar continued.

"15th. Comatose, restless, and shrieking by fits. The pulse slower than in health, and the eyes insensible even to the impressions of strong light.

"As I had no hopes of doing any thing effectual for the recovery of my patient, I paid my visits, prescribed, and gave directions with a foreboding and heavy heart. Anxiously, however, considering the case in different points of view, and fully convinced that it was vain to pursue the usual line of practice, it occurred to me, that mercurials, so far urged as to enter the course of circulation, and affect the salivary glands, might possibly reach the system of absorbents in the ventricles of the brain, and thus remove the extravasated fluid.

"The short continuance of the disease, and the apparent strength of my patient, were favourable to the trial of this method. No time, however, was to be lost. The parents were consulted, and readily gave their sanction to the proposal; for they were convinced, that, unless some powerful steps were taken, this their only son must be numbered with those of their children who had already fallen a sacrifice to the disease.

"The mercurial course, therefore, was commenced, and urged on with caution and expedition. In forty-eight hours the breath began to be offensive; the gums were reddish and swelled; and the symptoms of the disease, so far as could be distinguished, were somewhat abated. In forty-eight hours more the ptyalism came

on, and the disease was evidently declining. Between the fifteenth and twenty-second he took twenty grains of calomel, and one drachm of the strongest mercurial ointment was likewise rubbed in well upon the legs and thighs. The dose of calomel was one grain, mixed with a little sugar, and repeated at such intervals as the circumstances of the case pointed out.

"After the twenty-second no more mercurials were administered; a moderate ptyalisin continued for five or six days, then gradually ceased, and the disease was entirely removed. The bark was then given, as the best tonic remedy after the mercurial course, and as the best preservative against a relapse. The strabismus, I observed, was the last symptom which disappeared.

"From the 15th, no other medicines were used except mercurials. The three sisters of the above patient, who all died of this disease, were treated with blisters; and to one of them they were applied in succession to the head, behind the ears, and between the shoulders."

Case III. *By Dr. Percival.*—"One of my own children, a girl aged three years and three months, has lately been a severe sufferer under this alarming malady. As soon as the characteristic symptoms of the disease clearly manifested themselves, I laid aside all other remedies, convinced, by repeated observation, of their insufficiency; and trusted solely, though with much solicitude, to the internal and external use of mercury. In forty-eight hours, signs of amendment appeared, and her recovery was perfected in six days. During this space of time, thirteen grains of calomel were administered, and seven scruples of *unguentum mercuriale fortius* carefully rubbed into her legs."

Case IV. *By Mr. Mackie.*—"John Algood, aged twenty-seven, of a thin habit of body, accustomed for four or five years past to work in a tan-yard in a very stooping posture, was attacked in the beginning of May with an irregular intermitting fever, accompanied with much pain in his joints. These complaints continued till about the middle of June, when he was seized with a violent and constant pain in the back part of his head, attended with great giddiness, noise in his head and ears, dimness of sight, &c. and his fever became more continued. He lay in this state upwards of a month, without receiving any benefit from some medicines which he took during that period."

Mr. Mackie was called to him in the middle of July, and found him labouring under the following symptoms: A fixed pain on the right side and back part of his head, which was frequently so acute as to make him quite outrageous, crying out, tearing his hair, beating himself on the head, &c. He had such a giddiness, that unless strongly held, he could not support himself a moment in an upright posture. He could not bear the light; and, when he did venture to open his eyes, could not see objects distinctly.

His pupils were uncommonly dilated; and his right eye seemed drawn outward, and rather contracted in its volume. He complained of a strange palpitating noise in his head and ears; and said, he felt at times as if there was a weight of water falling from one side of his head to the other. He was, in general, sensible; but, on asking him two or three questions together, he became confused, and, like a person with an oppressed brain, answered with hesitation, quite wide of the question, and often opposite to what he meant. Along with these, he had a hot skin, small quick pulse, thirst, a foul tongue, urine in small quantity and high coloured; he was emaciated, sick, costive, and sweated much; had often a kind of stupor, but very little sleep. Once in twenty-four hours he had generally a remission (of three or four hours' continuance) of the febrile symptoms, but of none of the other complaints.

July 16th. Ordered three or four leeches to be applied to each temple immediately; an emetic to be taken in the evening, and a cooling purge to-morrow morning.

17th. In the evening found the leeches had taken away a good deal of blood, and the vomit and purge operated well. No change in the complaints, except that the sickness is a little abated. He screamed greatly on attempting to raise his head from the pillow.

Ordered his head to be shaved, and a sharp blister to be applied all over the occiput, large enough to cover the nape of the neck; also one on the inside of the leg. Internally;
(No. 252.) \mathcal{R} Nitri purif. \mathfrak{z} ss.

Camphoræ, gr. iv. \mathcal{M} . f. pulvis; quarta quaque hora sumendus durante febrili calore.

(No. 253.) \mathcal{R} Pulv. cort. Peruvian. \mathfrak{z} i.

Pulv. rad. valerian. sylv. \mathfrak{z} ss \mathcal{M} . f. pulvis, exhibendus quamprimum remissio appareat, & repetendus si ultra horas tres pergat.

The milk-gruel and barley-water for drink.

July 19th. The blisters have discharged much, and he has taken the medicines punctually; but the fever and other complaints remain as before. Pulse very irregular; pain in the head and restlessness extreme.

Left off the camphor; and in its stead added to each nitrous powder, tartar emetic, gr. $\frac{1}{4}$. Dressed the blisters with the *unguent. ad vesicatoria*.

21st. Two doses of the bark and valerian were given during the two last remissions of the fever, which were full four hours each; but to-day there appears no kind of amendment. All the symptoms continue much the same. Shrieked out much, and talked incoherently. Has had no stool since he took his physic. Ordered a laxative clyster to be thrown up directly, and the medicines to be continued as on the 10th.

23d. The clyster procured two motions. Has sweated profusely, through the last forty-eight hours. Blisters have run freely. The two last diurnal remissions not quite so distinct. No abatement of the other complaints. The pain, giddiness, stupor, cantortion of the eyes, &c. remain to as great a degree as ever.

Mr. Mackie now left off all other medicines, and ordered ten grains of calomel, made into a bolus with conserve of roses, to be taken at bed-time; at the same time, a dram of the strong mercurial ointment was directed to be rubbed in; and both to be repeated every night.

25th. Found no alteration. Fever and other symptoms the same. Blisters heal, having been dressed these two days with basilicon. The calomel and mercurial friction ordered to be continued as on the 23d.

26th. Mr. Mackie found him complaining much of being griped. Had two purging stools in the last twenty-four hours. His gums were a little tender, and his breath beginning to be tainted. In other respects as usual. Left off the calomel, and ordered a double quantity of the mercurial ointment to be rubbed into his thighs every night.

28th. He had had a calmer night than any for these two months past. For the first time, he said the pain of his head was abated; he looked more composed; his skin felt cooler; his pulse more full, and not so quick. He complained of his mouth being sore, and his tongue being swelled; and had discharged a good deal of saliva in the night. Only one dram of the ointment to be rubbed in, for the next two nights.

30th. He spit about three quarts for the last forty-eight hours, and complains of much heat in his mouth; but all his other complaints better. Pain in his head almost gone, excepting now and then a shoot. Giddiness much abated. He said he often felt a trickling kind of motion, as of water running along the inside of his temples; but this sensation was without pain. He could sit up in bed, and feed himself; was sensible, and in spirits. Pulse regular, and not above seventy in a minute. He had a remission of upwards of six hours to-day; ordered the ointment to be left off.

Aug. 1st. Continues to spit freely. Had yesterday a smart return of the fever; which however only held him about twelve hours. To-day there is a perfect remission, and he is in every respect much mended. Has had some hours good sleep. Complains very little of pain. Got out of bed for the first time; sat up three hours; and could even bear the light without being disturbed by it. Complained of being hungry. Allowed plenty of milk-porridge and small broth.

3d. The spitting keeps up to about a quart in the twenty-four hours. Found him out of bed to-day, and almost without com-

plaints. He said his head was well; and that he only wanted strength to get rid of his fever and sore mouth. The remissions were now almost as long as the paroxysms, being about twelve hours each. Has taken no medicine internally since he left off the calomel, and was costive. Ordered a dose of rhubarb; and after its operation a drachm of the bark every four hours during the remissions.

6th. The spitting begins to decline. He has had no fever for the last twenty-four hours. He sleeps well; and has an appetite, if the soreness of his mouth would let him eat. Head-ach and giddiness gone; but his pupils still continue much dilated. Ordered him another rhubarb-purge, and the bark to be continued every six hours.

9th. Has had no fever, or other complaints. Spitting inconsiderable; mouth better; aspect more natural; is able to walk about, and mends daily. Allowed him a more generous and substantial diet, and continued the bark twice a-day for another week.

From this time he continued to get strength apace; had good nights, good appetite, a perfect freedom from head-ach and fever; and on the 23d went to work, being in every respect quite well, and has continued so ever since.

This patient did not seem to receive the smallest benefit from the blisters, or any thing else, till he took the mercury, which acted like a specific; and the fever seemed to be altogether symptomatic, as it easily yielded after the other complaints were removed.

Although it must be allowed, that the affection here described was in many respects an anomalous one, yet many of the circumstances render it in some degree probable that it depended on water in the head; and there are strong reasons for inferring, that the mercury, pushed so far as to excite salivation, was the means by which the cure was accomplished.

It is not wonderful that the publication of these cases should have led to the frequent employment of mercury in hydrocephalic affections. We are, however, sorry to add, that an extensive employment of this remedy in such cases has by no means confirmed the favourable opinion which some were disposed to entertain of it. It has been found, that, in many cases where mercury has with hydrocephalic patients been employed, both internally and externally, to a very great extent, no salivation was produced. Some, therefore, have even gone so far as to conclude, that salivation cannot be induced in this disease; and there is little reason to doubt, that, in the advanced periods of the disease, there occurs both an insensibility and diminished action of the absorbents, by which alone mercury can be introduced into the system; and likewise of the salivary organs, on which it must act before any ob-

vious salivation can be induced. But, besides that mercury is often given in this disease, even to a great extent, without producing any obvious effect, we must also mention with regret, that, in not a few cases of hydrocephalus, where mercury copiously exhibited at an early period produced salivation, the disease nevertheless has had a fatal termination; and it must be confessed, that an effectual remedy in this complaint still remains to be discovered.

At the same time, besides the cases mentioned, mercury has been said to succeed in several others which had every appearance of hydrocephalus; and as we are yet unacquainted with any remedy, not even excepting blisters, of which some are disposed to think very favourably, on which more dependence is to be put, the careful and regular employment of it should not be neglected in any instance of this affection, unless some circumstance occur strongly contra-indicating its use.

Where the theory of a disease is obscure, facts are of considerable value; we shall therefore extract, from the most recent medical publications, such as may exhibit the effects of a somewhat different treatment from that described above.

Case V. *By Dr. Garnett.* "On the 19th of November, in the evening, I was requested to visit Miss H. aged sixteen, whom I found in a comatose state; her breathing was rather strong and unequal, and when roused by considerable force, she did not open her eyes, but put her hand upon her forehead, and cried out in a most piteous manner, 'O my head!' Her pulse was 96, and rather full; and the catamenia, which had been regular for near two years, had appeared the preceding week. The patient, when in health, was of a very lively disposition, and remarkably intelligent. About a year before she had complained for a few days of pain in her head, which was removed by gentle purgatives.

"For two days before I visited her she had complained of considerable pain in the forehead, extending on each side to the temples. When I first saw her, I could with great difficulty get her to speak; but when at length she was sufficiently roused, she said the pain was so violent, that she thought her skull was separating, and immediately relapsed into a state of insensibility. The pain had become more violent about two hours before, previous to which some symptoms of hysteria had appeared, which were succeeded by violent sickness and vomiting.

"With a view of alleviating the present symptoms, I ordered her the following draught:

(No. 254.) ℞ Tinct. opii gutt. xxv.

Æther. vitriolic. 3j.

Aq. fontan. ℥iss.

Syr. simp. 3ij.

Misce fiat haustus.

“ And as there was some appearance of nervous irritability, I prescribed the following :

(No. 255.) ℞ Spir. vol. foetid.

Tinct. valerianæ vol.

Tinct. lavend. comp. aa. ʒij.

Misce.

“ Of this mixture a tea-spoonful was directed to be taken every three hours in a little water.

“ Nov. 20th. She had passed a very restless night ; her sleep was disturbed, and at intervals she complained much of pain in her head, shooting downwards towards her left shoulder. She had been very sick in the night, and had thrown up the drops twice, but not the draught. Pulse 100, full, and somewhat irregular. She seemed always much inclined to sleep, and when roused almost instantly closed her eyes. She appeared, however, to have considerable aversion to the light, and desired that the curtains of the bed might be close drawn, in order to exclude it ; notwithstanding which, the pupils of her eyes were preternaturally dilated, and scarcely contracted on bringing a lighted candle near them. The pain in her head, she said, was very acute, and never left her for one instant. Her skin was very hot and dry ; and as she had not had an evacuation of the bowels for two days, I directed a stimulant clyster, which brought away some hardened fæces.

“ As I had now reason to apprehend that I had to combat that terrible disease, the apoplexia hydrocephalica, I directed the application of a large blister between the shoulders, and one of the following pills to be taken twice a-day :

(No. 256.) ℞ Calomel.

Pulv. digital. purpur. aa. gr. vj.

Extract. gentian. q. s.

Misce ft. pil. vj.

“ I likewise ordered a drachm of unguent. hydrarg. mit. to be well rubbed on the nape of the neck, and behind the ear, three times a-day. I also directed the immediate application of three leeches to each temple.

“ 21st. The leeches had drawn a considerable quantity of blood, and she thought her head rather easier for some hours ; but the pain was now as bad as ever. The comatose disposition had increased, and in the night she had been delirious. The pupils of her eyes had been much dilated, and did not contract on the approach of a candle. Her pulse was 76, irregular, and somewhat strong. She did not complain of pain any-where except in the head.

“ 22d. Much the same as yesterday.

“ 23d. Pain of the head very violent and incessant ; pulse only 60, but full and regular. She frequently lay a long time without

breathing, and then sighed deeply. The pupils were still dilated, and she had an evident strabismus, the axis of the right eye being directed towards the nose. As she continued to be colicive, the clyster was ordered to be repeated.

" 24th. Pulse only 52, very regular, not quite so much stupor, but the pain of the head very violent. Strabismus and dilated pupils as before. Had voided a considerable quantity of high-coloured urine during the night. She had also begun to spit a good deal, but did not complain of soreness of the mouth.

" 25th. Pulse 60, regular and full; less stupor; had slept none in the night, but sighed frequently; complained much of the pain of her head, which, she said, was more violent than ever, and extended towards the occiput. As the blister between the shoulders was healed, I directed a small one to be applied behind each ear. She had ejected upwards of a pint and a half of saliva, and voided a large quantity of urine. In order to check the salivation, which I was apprehensive might go to a greater length than I wished, I directed eight grains of kali sulphuratum to be taken every two hours in a little water. This is always found very efficacious in checking or putting a stop to salivation. In twenty-four, or at most forty-eight, hours after the first exhibition of this remedy, the salivation becomes much abated. It has been reasonably supposed that mercury derives most of its activity from being in the state of an oxyd; for crude mercury possesses little or no power, and in the form of mercurial ointment, the mercury is evidently oxygenated by continued friction. On the decomposition of the water in which the medicine is given, by the kali sulphuratum, sulphurated hydrogen gas is produced, which will be conveyed into the blood, where the hydrogen unites with the oxygen of the mercurial oxyd, and forms water, while the sulphur will convert the metal into an ethiops or sulphuret, which is very inert.

" With a view of affording some relief to the excruciating pain of the head, I directed a pill of opium to be taken at bed-time.

" 26th. Pulse 80, very full and regular. Had slept none, but been delirious the greatest part of the night; pain intolerable. Strabismus still remains, but the pupils contract a little on the approach of light. Salivation diminished. The quantity of urine not so great, but still considerable. The pills and mercurial ointment had been omitted since yesterday. To alleviate the pain, the temples and forehead were rubbed with ether; but this proving ineffectual, three leeches were applied to each temple, and one of the following powders was directed to be taken every three hours in a little tea:

(No. 257.) ℞ Nitri purif. ʒij.

Sacchar. alb. ʒiij.

Pulv. coccinell. gr. viij.

M. et divid. in part xij.

" 27th. The pain of the head was relieved for some hours after the application of the leeches, but had returned, though not quite so violent as before. Pulse 80, not quite so full. No perceptible strabismus, but the pupils continue dilated. The powders were ordered to be continued.

" 28th. Had slept a little, but still complained of great pain in the head. Pulse 84, rather full. Salivation gone, urine natural. As she nauseated the nitrous powders, an effervescent saline draught was directed to be taken every four hours.

" 30th. Pain of the head still bad, though not quite so acute. Pulse 80, not so strong. Has had a stool every day for the last three days. The medicines continued.

" December 1st. Pain of the head very bad, but slept a little last night. Pupils considerably dilated. Pulse 96, of natural strength, and regular.

" The pills of calomel and digitalis were ordered to be repeated.

" 2d. Had two stools yesterday. Slept a little during the night. Pain of the head and pulse as yesterday. The effervescent draught being very grateful, was ordered to be continued, as well as the pills.

" 4th. Pain less acute. Pulse 96, and regular. Pupils not so much dilated, and contract more on the approach of light. Sat up three hours yesterday. The blisters discharge well. The pills were directed to be continued, and the friction with mercurial ointment to be resumed.

" 6th. Pain much less acute; has sat up several hours. Pulse natural; pupils not dilated; slept well. Remedies to be continued.

" 8th. Pain gone. Complains of nothing but weakness. The pills and friction to be omitted.

" 12th. No complaint but that of being rather costive.
(No. 258.) ℞ Maf. pil. Russi ʒjss.

Calomel. ʒj.

Syr. simp. q. s. ut ft. pil. xx.

Sumat j. vel ij. pro re nata.

" 31st. No return of the complaints.

" During the worst period of her illness, it may be observed, that she never asked for any thing; but when food of any kind was offered her, she took it very eagerly. She was not afflicted with vomiting, except during a few of the first days."

Dr. Garnett makes the following remarks on this case:

" From a view of the symptoms in the preceding case," says he, "there can be little hesitation in referring them to the disease which Dr. Whytt calls *Hydrocephalus internus*; but which Dr. Cullen, perhaps with more propriety, calls *Apoplexia hydroce-*

phalica, though I think this term not altogether unexceptionable, for reasons which I shall afterwards mention.

“ All the symptoms enumerated by this accurate nosologist, in his definition, were present in this case. “ Apoplexia (*hydræcephalica*), paulatim adoriens; infantes et impuberes, primum lassitudine, febricula et dolore capitis, dein pulsu tardiore, pupillæ dilatatione, et somnolentia afficiens.”

“ Within these last six years I have seen several instances of this disease, and though only in the cases I have mentioned have I been able to effect a cure, yet in two others the symptoms were so much alleviated by what is generally called the antiphlogistic plan, conjoined with mercurials and digitalis, that I had great hopes of their recovery. But the misfortune is, that a physician is generally consulted after the inflammatory stage is past, in which alone any good can be done.

“ Since Dr. Whytt favoured the world with his excellent history of this disease, I think it has been nearly a general opinion that children are almost the only subjects liable to its attacks, and chiefly those between the fourth and tenth years of their age; and I am of opinion, that the symptoms which indicate the presence of this disease, seldom shew themselves in an advanced period of life, but are much oftener met with in infants; yet, from the observations of Dr. Quin, and my own experience, this disease does not by any means appear to be confined within the limits just mentioned. The subject of this case was sixteen. I had one patient who was thirty years of age, and another thirteen. Dr. Quin relates some cases of patients forty years of age, though such instances are certainly not very common in the usual course of practice.

“ The *proximate cause* of this disease has hitherto been involved in considerable obscurity, and consequently the practice must have been guided by vague and uncertain principles. A due consideration of the various circumstances which present themselves in this disease, together with the appearances on dissection, would induce us to suspect, on very probable grounds, that the disease depends upon, and is generally (if not always) accompanied by, a plethoric state of the vessels of the brain, occasioning a considerable degree of inflammation, and generally (though not always) producing an extravasation of watery fluid before death. As proofs of the existence of this inflamed state of the brain, I beg leave to offer the following circumstances. In all cases where blood has been drawn, it exhibits the same appearance as in cases which are undoubtedly inflammatory. In some of the cases which fell under my observation, the blood had this appearance in as great a degree as I have ever observed in pleurisy. The acuteness of the pain and fullness of the pulse likewise countenance this

supposition; but what amounts almost to a demonstration, is the aggravation of the symptoms from the exhibition of stimulants, and the relief which in the first stage of the disease always attends the antiphlogistic or debilitating plan; both of which were seen in the case just related. The appearances on dissection likewise confirm this. Dr. Quin mentions the appearances which presented themselves in the brain of a young woman who died at Edinburgh in the year 1777, and that of a boy attended by his father some years ago in Dublin. In both of these cases the blood-vessels of the brain were so unusually distended, that the whole cerebrum and cerebellum resembled an anatomical preparation, in which the utmost force of injection had been employed. What is very remarkable in these cases is, that though the symptoms preceding death were so unequivocal, yet in both cases, to the astonishment of those who were present, and who expected to find a considerable quantity of water in the cranium, none could be discovered.

“ In four other cases mentioned by Dr. Quin, where the quantity of effused blood in the fluid found in the ventricles was considerable, there were signs so visible of an increased flow of blood to the brain, that in all of them the vessels were remarkably turgid, and in many of them a great degree of inflammation had actually taken place.

“ The accurate Morgagni also relates several instances in which the symptoms of this disease had been present, and where, upon dissection, evident marks of morbid accumulation, and of an inflammatory state of the vessels of the brain, had appeared.

“ All these circumstances strongly tend to confirm the supposition that the symptoms, particularly those which appear in the first stage of *apoplexia hydrocephalica*, depend upon a plethoric and inflammatory state of the vessels of the brain. And though in many cases, upon dissection, a quantity of fluid has been found in the ventricles of the brain, yet may not this be looked upon as a consequence of the disease, rather than as the cause of it? And is it not probable that this watery effusion does not take place till the vessels have been oppressed for some time by the excessive congestion of blood, and in consequence of this, and the violent excitement, have lost their tone; whence the aqueous fluids are discharged in considerable quantities into the adjacent cavities, while the absorbents, probably weakened by the same cause, are unable to absorb the fluid so fast as it is effused? It appears to me even doubtful whether the symptoms which generally shew themselves in this disease depend upon the effused fluid. Many of them undoubtedly do not; and in the two cases related by Dr. Quin, ‘all the symptoms that generally attend this disease were present, and yet upon dissection, to the astonishment of the spectators, who were prepared to find a great redundancy of water within the cra-

nium, none could be discovered in any part of the brain.' Surely the name *hydrocephalus* is not applicable to such cases.

" In every case, therefore, it would be proper in the first stage, if no symptoms particularly forbid, to use the debilitating plan to a considerable extent. I have made use of it in three cases which have been cured, and have seen others much relieved by it. At the same time, however, it must be noticed, that the other remedies soon to be mentioned were administered; for the disease generally runs on so rapidly to its fatal period, that I think it would not be justifiable to neglect any of the means likely to arrest its progress.

" In strong subjects, especially those who have attained the age of puberty, general bleeding may be used; but I should rather prefer local bleeding, because eventually a great degree of debility comes on; and it seems probable that the accumulation in the vessels of the head may be most effectually relieved by evacuations made as near the part as possible. I am convinced that there often exists, not only in this disease, but in some others of the inflammatory kind, a local inflammation, without much general sthenic diathesis; and when the vessels have taken on an inflammatory action in any part, general bleeding may be employed to such an extent as to weaken the system very much, without considerably abating the increased action, while local bleedings, especially after one general evacuation, often produce a speedy solution of the inflammation. This is the case particularly with the acute rheumatism.

" In some cases it might be advisable to open the jugular vein, or even the temporal artery; but I have never yet seen either of these operations performed in this disease. As, in almost all cases, costiveness takes place, and aggravates the symptoms, it will be right to keep the bowels open by means of purgatives exhibited by the mouth, or stimulant clysters. In all cases I have had recourse to blisters, and I think with advantage. Where it has not been objected to, I have applied a blister to the whole head; in other cases I have directed them to be applied behind the ears, or between the shoulders.

" *The greatest chance of cure is during the inflammatory stage, and by means of the antiphlogistic regimen carried to its fullest extent.* Whether in this stage much is to be expected from mercurials, I cannot say. Is it not probable that this remedy may produce its good effects by exciting the action of the absorbents, and thus enabling them to take up the extravasated fluid? and would they have produced any good effects in the two cases related by Dr. Quin, where there was no watery effusion? The *digitalis* being one of the most powerful diuretic remedies with which we are acquainted, is a very proper remedy in this disease; and I think I have found that its diuretic effects are much more certain and

powerful, when conjoined with mercury. The digitalis likewise claims attention on other grounds. It seems to possess the power of diminishing the action of the arterial system in a very remarkable degree, and is therefore indicated in the inflammatory stage."

Case VI. *By Mr. White, of Bath.* This case occurred at the Bath City Dispensary, between four and five years ago. The subject of it was a boy seven years of age, and of a muscular sanguine temperament.

"His mother informed me," says Mr. White, "that, for a month previous to applying for advice, he had, at intervals, complained of a pain in his head, attended with loss of appetite and strength. Sometimes he vomited once or twice a-day; at other times once in two or three days; he had also fallen down on the floor several times in fits; he had been thirsty and feverish. When I first saw him, he was in a state of total insensibility, which had been preceded by a violent acute pain in his head. On examination, the pupils of his eyes were found much dilated, and did not apparently possess the smallest degree of irritability. His face was flushed, his urine discharged involuntarily, and his bowels were costive; he made a constant noise, and his lips were in perpetual convulsive motion. I immediately opened the temporal artery, ordered his head to be shaved, bathed with vinegar, a blister to be there applied, and another betwixt his shoulders. He took small doses of calomel, combined with digitalis, and occasionally took a draught, composed of mist. camphor. spt. æther. vitriol. comp. and tinct. opii. As purgatives produced no effect in stimulating the intestines, clysters were resorted to for that purpose. After remaining in the state above described about a fortnight, evident symptoms of amendment took place, and he soon recovered his usual strength."

Case VII. "Aug. 19. William Sedman, aged nine, of a dark complexion, and spare habit, was seized, three days ago, with a violent pain in his head, attended with vomiting; the latter has ceased, but the former has continued so acute as to make him frequently scream out; at other times he lies in a comatose state. Has had several convulsion fits. He takes no food, except when a little liquid is forced into his mouth with a tea-spoon. His pulse is quick and small, skin temperate, tongue tolerably clean. When sensible, complained of thirst; bowels costive; urine discharged involuntarily and copiously. For a fortnight previous to this attack, his father noticed his being hot at night. On the first day of his illness an emetic was given, which brought off a great quantity of bile from his stomach. The following medicines were prescribed:

(No. 259.) ℞ Calomel. pp. gr. iij.

Conserv. rose, q. i.

Ut ft. pil. statim sumenda.

(No. 260.) \mathcal{R} Magnes. vitriol. \mathfrak{z} ij. solve in
Aq. pur. \mathfrak{z} ij. adde
Aq. menth. pip. \mathfrak{z} ij.

Fiat mistura cujus capiat cochl. j. amplum quartâ quaque horâ.

Applicetur emplastr. canthar. inter scapul.

“ Aug. 20. 11 A. M. He still continues in an insensible state. The pupils are dilated; but at the approach and removal of a lighted candle, they alternately contract and dilate, although he does not take the least notice of any surrounding objects. Pulse rather slower than yesterday. Bowels have been moved once.

Applic. hirudines sex temporibus.

Repet. pil. calomel. statim.

(No. 261.) \mathcal{R} Pulv. fol. digital. purpur. gr. $\frac{1}{2}$.
Calomel. gr. j.
Conserv. rosæ, q. s.

Fiat pil. mane nocteque sumenda.

“ 4 P. M. Visited him again, and was informed, that, in about ten minutes after the leeches came off, his senses returned. He requested something to eat, and made water voluntarily.

“ Aug. 21. 11 A. M. He continues sensible, and tolerably free from pain. Was restless till about one o'clock in the morning; after which he had four hours' sound sleep. Pulse rather quicker than yesterday. Has had two motions, but makes very little water.

(No. 262.) \mathcal{R} Kali acetat. \mathfrak{z} j.
Aq. menth. pip.
Aq. pur. aa. \mathfrak{z} ij.

Sumat cochl. j. magn. $\frac{1}{4}$ ta. quâque horâ.

“ 8 P. M. About five o'clock this afternoon he had a febrile accession, with slight delirium. Has made more water. Complains rather of a pain in his head. Has had no sleep since the morning. The following draught was prescribed:

(No. 263.) \mathcal{R} Aq. menth. pip. \mathfrak{z} vi.
Mist. camphor. \mathfrak{z} ij.
Tinct. opii gtt. viij.
Spt. ætheris vitriol. comp. gtt. xx.

Misce fiat haustus.

“ Aug. 22. Has been restless during the night, although he took the draught. Complains rather of pain in the left side of his head; at intervals appears slightly delirious; has had one loose stool. Had no return of the febrile accession yesterday evening.

Applic. iterum hirudines tres tempori sinistro.

Perstet in usu pil. digital. & mistura.

“ Aug. 23. Has had a very good night without an opiate; pain in his head relieved, and remains quite sensible.

Repet. medicamen.

" 24. Continues to mend.

" 25. Has now no complaint but debility; and of that he quickly recovered."

Case VIII. " Sept. 10. Sufannah Harris, aged forty-six, of a dark complexion and spare habit, complained of a pain in her head, chiefly across the *os frontis*, and sometimes at the *occiput*, accompanied with a sensation of weight. The pain was at intervals so acute, that she could scarce refrain from screaming out, and was much increased when she lay in a horizontal position. She also complained of dimness of sight, objects appearing double, and of various colours. She was often sick, and vomited; what she threw off tasted sour and bitter. Had frequent shiverings in the course of the day, succeeded by hot flushings; she had also great anxiety and restlessness. Her pulse was hard and frequent, but had not a full stroke; skin warm; tongue white, although she had not much thirst. Her bowels were regular, and she made a proper quantity of water. Her appetite was not very good, and she rested badly at night. Several of her fingers were clenched, and she had a great deal of convulsive motion. The catamenia were upon her. She had been ill about three weeks, and was at first seized with an head-ach and chillness. On enquiry, I found she had received a blow on the head some time previous to her illness.

Mittatur sang. ad ℥xij.

(No. 264.) R̄ Calomelas gr. vj.

Pulv. Jalap. gr. viij. ft. bol. mane sumendus.

Sumat mistur. salin. ℥j. 4ta quaque horâ.

" The blood was exceedingly fizy, assuming the cup-like appearance.

" 11. The pain in her head was much abated; pulse not so hard, and less frequent; skin cool; tongue cleaner. Her fingers were not so much contracted, and her sight was rather better. The bolus had opened her bowels sufficiently. She was ordered to continue the mixture.

" 12. Her head was rather more painful than yesterday. Pulse somewhat increased in hardness and frequency.

Admoveantur hirudines sex temporibus, et imponatur

Empl. Canthar. inter scapul. Contin. mist. salina.

" 13. Her head was much better, and the anxiety and restlessness considerably abated. Pulse less hard and frequent. She had quite recovered the use of her fingers. Her bowels were open. —Repet. mistur.

" 15. Her head free from pain, but the dimness of sight not entirely removed.

" 18. Head still continued easy. Pulse small and weak, but

by no means quick. Her rest at night was much better. She had still slight febrile alternations.

“ 25. Had no return of pain in her head, and felt no complaint but debility, on which account a cordial mixture was prescribed.”

Mr. White, however, adds, that in the course of ten days he was again requested to visit her, although at the last report she was able to attend at the Dispensary herself. She now complained of a violent pain in her stomach, accompanied with sickness and vomiting; her pulse, as at first, was hard and frequent. As the symptoms indicated a recommencement of the inflammatory action, eight ounces of blood were taken from her arm, which exhibited the same appearance as before.

“ As her head seemed but little affected,” says Mr. White, “ I apprehended there might be a metastasis of the inflammation to the stomach, to which part a blister was applied, and a saline draught in the effervescent state ordered to be given every four hours. By these her stomach was relieved from the violence of the pain; but the sickness and vomiting still continued. There was no evacuation from the bowels, unless by means of purgatives. Her head became again more affected with pain, particularly in the left side, and was sometimes violently agitated with convulsive motions. The pupils were more than usually contracted, and slightly sensible to the stimulus of light, so that she could discern objects, though but confusedly. Her pulse became prematurely slow. She was perfectly sensible.

“ Notwithstanding the application of leeches to her temples, and a blister on her head, with various other remedies, she died in the course of a fortnight.

“ On examining the head, the right lateral ventricle was quite empty, but the left lateral one contained about half an ounce of clear fluid. Neither the vessels of the *dura* or *pia mater* were turgid with blood; the sinuses were also empty.” It seems no other morbid appearance was observed, which could lead to a suspicion that the blow she had received was the occasion of the symptoms described. Mr. White here makes the following reflections: “ The two last cases, I think,” says he, “ clearly demonstrate the great utility of *evacuation* principally; and if this proposition be granted, it will naturally follow, that where evacuation is proper, stimulants must be the reverse. It is true, some medicines of alleged stimulant power were exhibited; but that was chiefly with a view to palliate several symptoms, and then not till after evacuants had been employed.

“ In this disease, we have not only to lament the frequent insidious and equivocal nature of its symptoms, but also the opposite opinions that are still entertained by medical writers, respect-

ing its nature or proximate cause, which must prove an additional embarrassment to the young practitioner.

“ Dr. Whyte, to whom we are greatly indebted for a very minute description of the symptoms usually attendant on the disease, observes, ‘ the immediate cause of every kind of dropy is the same, viz. such a state of the parts as makes the exhalent arteries throw out a greater quantity of fluids than the absorbents can take up.’ Which state, from what he afterwards mentions, he evidently considered as consisting in debility.

“ Dr. Darwin thinks inactivity, or torpor of the absorbent vessels of the brain, is the cause of *hydrocephalus internus*; yet, in another part of his work, he acknowledges, that the torpor of the absorbent vessels may frequently exist as a secondary effect.

“ Dr. Brown says, ‘ that *hydrocephalus internus* is evidently a disease of debility, and requires remedies which increase the excitability of the system.’

“ There are likewise others who view the subject in a very different light; and, I think, more properly. Dr. Withering observes, that in very many cases, if not in all, congestion or slight inflammation are the precursors to the aqueous accumulation.

“ Dr. Rush is of opinion, that instead of being considered as an idiopathic dropy, it should be considered only as an effect of a primary inflammation, or congestion of blood in the brain. ‘ It appears,’ say he, ‘ that the disease, in its first stage, is the effect of causes which produce a less degree of that inflammation which constitutes phrenitis; and that its second stage is a less degree of that effusion which produces serous apoplexy in adults. The former partakes of the nature of the chronic inflammation of Dr. Cullen, and the asthenic inflammation of Dr. Brown.’ I have taken the liberty (he further adds) to call it phrenicula, from its being a diminutive species or state of phrenitis.

“ Dr. Beddoes says, he believes it to belong to inflammations, and that, at an early period of the disease, he should be tempted to bleed as largely as in pneumonia.

“ This difference of opinions may, in some degree, be accounted for, if we advert to the division of the disease into the acute and chronic species. In the former, the disease proves fatal in less than a month; and it is seldom that more than two or three ounces of fluid are found within the ventricles. In the latter species, the patient survives for many months, sometimes for a year or two; and the bones of the cranium are separated from each other to a great distance.

“ From a variety of other cases of *hydrocephalus internus*, as well as the preceding, which have fallen under my observation, I am led to think, that the disease very rarely occurs from mere de-

bility, as a primary cause ; but that debility is an effect induced by a previous excess of action in the arterial system.

“ The great analogy subsisting between the symptoms which are characteristic of inflammation, and those which form the first stage of the acute species of hydrocephalus internus, together with the good effects often consequent on blood-letting, and the inflammatory appearance which the blood frequently exhibits, are, I think, strong proofs of the disease being an active inflammation. It is very obvious, that the first stage of hydrocephalus internus is attended with an augmentation of the sensibility of the brain, from the violent acute pain of that organ ; the painful sensation experienced on the eyes being exposed to the stimulus of light ; and the similar painful effect produced by noise on the organ of hearing ; which phenomena are considered by nosological writers as pathognomonic symptoms of inflammation. Dr. Darwin says, that when the eye is inflamed, light becomes eminently painful, owing to the increased irritative motions of the retina, and the consequent increased sensation. Dr. Rush also observes, that he has remarked an uncommon acuteness in hearing attend two cases of this disorder ; in one of them, the sparks which were discharged from an hiccory fire, produced great pain and startings, which threatened convulsions.

“ The termination of inflammation by effusion into the other cavities, is an additional proof of the preceding suggestions respecting the nature of the disease ; as there are instances of pneumonic inflammation terminating in hydrothorax.

“ The description which has been given by another physician of the hydrops plethoricus, still further confirms what I have stated, relative to the nature of hydrocephalus. He observes, that in the dissection of those dying of those diseases (hydrops plethoricus) collections of water have been found over the whole body, but particularly in the cavities of the thorax and cranium : the large vessels have been found turgid, being distended with much blood. When the disease has been of the acute kind, no inconsiderable inflammations have been observed.

“ With regard to the *curative indications* in this disease, the necessity of *blood-letting* cannot, I think, be too forcibly impressed upon the minds of young practitioners ; and it ought to be carried to such an extent, as to answer a determinate end, viz. that of lessening topical congestion, and diminishing arterial action. Although the primary stage is the only period in which we can reasonably hope to derive any advantage from this remedy, yet, even when the symptoms which characterise the second stage have commenced, I would at least advise a topical bleeding ; as there is reason to apprehend, that the same effect is sometimes produced from mere distension of vessels, as when effusion has

taken place. The sudden relief sometimes obtained by bleeding, I think favours this idea. In short, I consider what Dr. Beddoes has said, respecting venæsection, to be of more practical utility than all that has hitherto been written on the subject.

“*Purging* is also necessary, not only on account of lessening determination to the head, but particularly as the symptoms, which proceed merely from foulness in the stomach and bowels, resemble those of hydrocephalus, and have been frequently soon removed by evacuating the bowels; cases of this kind are recorded by Dr. Armstrong and Dr. Underwood.

“*Blisters* appear also proper; and Dr. Rush observes, that they should be omitted in no stage of the disorder; for even in the inflammatory stage, the discharge they occasion from the vessels of the head, greatly overbalances their stimulating effects upon the whole system: lately, it has been recommended to apply them in the course of the futures, and to keep up a discharge by means of an issue; but as the *ceratum sabine* is capable of exciting a proper discharging surface, it appears preferable, its application being much less troublesome than that of an issue.

“I have frequently given the *digitalis*; and I think, with Dr. Ferriar, that it appears adapted to some indication in every species, and every stage of the disorder; as, promoting absorption, lessening irritation, and diminishing fever.

“With regard to stimulants, in the first stage of this disease, when there is evidently increased action with local congestion, they must obviously do harm; for in that case, as Dr. Darwin judiciously observes, they increase the action of the secreting, more than of the absorbent system; but, after copious evacuations, the resistance to the progress of the absorbed fluids is removed, and stimulants then applied, increase the action of the absorbent system, more than that of the secreting one.

“This observation is exemplified in scrofulous ophthalmia, where we find the complaint frequently increased by the application of stimulants, if used previous to the removal of the local plethora, by topical bleeding.”

Mr. White concludes by observing, that though much has been said in favour of mercury in the treatment of this disease, he never saw any good effects resulting from its exhibition, unless combined with *digitalis*; and we certainly think the latter well entitled to a fair trial in such cases.

Sp. IV. APOPLEXY from *Atrabilis*.

Apoplexia atrabiliaris, *Sauv.* sp. 12. *Preysinger*, sp. 6.

This takes place in the last stage of the diffusion of bile through the system, i. e. of the black jaundice, and in some cases the brain hath been found quite tinged brown. It cannot be thought to admit of any cure.

Sp. V. APOPLEXY from *External Violence*.

Apoplexia traumatica, *Sauv.* sp. 2.

Carus traumaticus, *Sauv.* sp. 5.

The treatment of this disease, as it arises from some external injury, exclusively falls under the management of the surgeon.

Sp. VI. APOPLEXY from *Poisons*.

Apoplexia temulenta, *Sauv.* sp. 3.

Carus a narcoticis, *Sauv.* sp. 14.

Lethargus a narcoticis, *Sauv.* sp. 3.

Carus a plumbagine, *Sauv.* sp. 10.

Apoplexia mephitica, *Sauv.* sp. 14.

Asphyxia a mephitide, *Sauv.* sp. 9.

Asphyxia a musto, *Sauv.* sp. 3.

Catalepsis a fumo *Sauv.* sp. 3.

Asphyxia a fumis, *Sauv.* sp. 2.

Asphyxia a carbone, *Sauv.* sp. 16.

Asphyxia foricariorum, *Sauv.* sp. 11.

Asphyxia sideratorum, *Sauv.* sp. 10.

Carus ab insolatione, *Sauv.* sp. 12.

Carus a frigore. *Sauv.* sp. 15.

Lethargus a frigore, *Sauv.* sp. 6.

Asphyxia congelatorum, *Sauv.* sp. 5.

The poisons which bring on an apoplexy when taken internally may be either of the stimulant or sedative kind, as spirituous liquors, opium, and the more virulent kinds of vegetable poisons. The vapours of mercury or of lead, in great quantity, will sometimes produce a similar effect; though commonly they rather produce a paralysis, and operate slowly. The vapours of charcoal, or fixed air, in any form, breathed in great quantity, also produce an apoplexy, or a state very similar to it; and even

told itself produces a fatal sleep, though without the apoplectic snorting. To enumerate all the different symptoms which affect the unhappy persons who have swallowed opium or any of the stronger vegetable poisons, is impossible, as they are scarce to be found the same in any two patients. The state induced by them seems to differ somewhat from that of a true apoplexy; as it is commonly attended with convulsions, but has the particular distinguishing sign of apoplexy, namely, a very difficult breathing, or snorting, more or less violent according to the quantity of poisonous matter swallowed.

Of the poisonous effects of fixed air, Dr. Percival gives the following account. "All these noxious vapours, whether arising from burning charcoal, the fermenting grape, the Grotto di Cani, or the cavern of Pyrmont, operate nearly in the same manner. When accumulated and confined, their effects are often instantaneous; they immediately destroy the action of the brain and nerves, and in a moment arrest the vital motions. When more diffused their effects are slower, but still evidently mark out a direct affection of the nervous system.

"Those who are exposed to the vapours of the fermenting grape, are as instantly destroyed as they would be by the strongest electrical shock. A state of insensibility is the immediate effect upon those animals which are thrust into the Grotto di Cani, or the cavern of Pyrmont. The animal is deprived of motion, lies as if dead; and if not quickly returned into the fresh air, is irrecoverable. And if we attend to the histories of those who have suffered from the vapours of burning charcoal, we shall, in like manner, find, that the brain and moving powers are the parts primarily affected.

"A cook, who had been accustomed to make use of lighted charcoal more than his business required, and to stand with his head over these fires, complained, for a year, of very acute pain in the head; and after this was seized with a paralytic affection of the lower limbs, and a slow fever.

"A person was left reading in bed, with a pan of charcoal in a corner of the room. On being visited early the next morning, he was found with his eyes shut, his book open and laid on one side, his candle extinguished, and to all appearance like one in a deep sleep. Stimulants and cupping-glasses gave no relief; but he was soon recovered by the free access of fresh air.

"Four prisoners, in order to make their escape, attempted to destroy the iron-works of their windows, by means of burning charcoal. As soon as they commenced their operations, the fumes of the charcoal being confined by the closeness of the prison, one of them was struck dead; another was found pale, speechless, and without motion; afterwards he spoke incoherently,

was seized with a fever, and died. The other two were with great difficulty recovered.

“Two boys went to warm themselves in a stove heated with charcoal. In the morning they were found destitute of sense and motion, with countenances as composed as in a placid sleep. There were some remains of pulse; but they died in a short time.

“A fisherman deposited a large quantity of charcoal in a deep cellar. Some time afterwards his son, a healthy strong man, went down into the cellar with a pan of burning charcoal and a light in his hand. He had scarcely descended to the bottom when his candle went out. He returned, lighted his candle, and again descended. Soon after, he called aloud for assistance. His mother, brother, and a servant, hastened to give him relief; but none of them returned. Two others of the village shared the same fate. It was then determined to throw large quantities of water into the cellar; and after two or three days they had access to the dead bodies.

“Coelius Aurelianus says, that those who are injured by the fumes of charcoal become cataleptic. And Hoffman enumerates a train of symptoms which in no respect correspond with his idea of suffocation. Those who suffer from the fumes of burning charcoal, says he, have severe pains in the head, great debility, faintness, stupor, and lethargy.

“It appears from the above histories and observations, that these vapours exert their noxious effects on the brain and nerves. Sometimes they occasion sudden death; at other times, the various symptoms of a debilitated system, according as the poison is more or less concentrated. The olfactory nerves are first and principally affected, and the brain and nervous system by sympathy or consent of parts. It is well known, that there is a strong and ready consent between the olfactory nerves and many other parts of the nervous system. The effluvia of flowers and perfumes in delicate or irritable habits, produce a train of symptoms, which, though transient, are analogous to those which are produced by the vapours of charcoal; viz. vertigo, sickness, faintness, and sometimes a total insensibility. The female malefactor, whom Dr. Mead inoculated by putting into the nostrils dossils of cotton, impregnated with variolous matter, was, immediately on the introduction, afflicted with the most excruciating head-ach, and had a constant fever till after the eruption.

“The vapours of burning charcoal, and other poisonous effluvia, frequently produce their prejudicial and even fatal effects, without being either offensive to the smell or oppressive to the lungs. It is a matter of importance, therefore, that the common opinion should be more agreeable to truth; for where suffocation

is supposed to be the effect, there will be little apprehension of danger, so long as the breast keeps free from pain or oppression.

“ It may be well to remember, that the poison itself is distinct from that gross matter which is offensive to the smell ; and that this is frequently in its most active state when undistinguished by the sense. Were the following cautions generally attended to, they might, in some instances, be the happy means of preserving life. Never to be confined with burning charcoal in a small room, or where there is not a free draught of air by a chimney or some other way. Never to venture into any place in which air has been long pent up, or which from other circumstances ought to be suspected ; unless such suspected place be either previously well ventilated, or put to the test of the lighted candle. For it is a singular and well-known fact, that the life of flame in some circumstances is sooner affected, and more expeditiously extinguished by noxious vapours, than animal life. A proof of this I remember to have received from a very intelligent clergyman, who was present at a musical entertainment in the theatre at Oxford. The theatre was crowded ; and during the entertainment the candles were observed to burn dim, and some of them went out. The audience complained only of a faintness and languor ; but had the animal effluvia been still further accumulated, or longer confined, they would have been extinguished as well as the candles.

“ The most obvious, effectual, and expeditious means of relief to those who have unhappily suffered from this cause, are such as will dislodge and wash away the poison, restore the energy of the brain and nerves, and renew the vital motions. Let the patient be therefore immediately carried into the open air, and let the air be fanned backwards and forwards to assist its action : let cold water be thrown on the face ; let the face, mouth, and nostrils, be repeatedly washed ; and as soon as practicable get the patient to drink some cold water. But if the case be too far gone to be thus relieved, let a healthy person breathe into the mouth of the patient ; and gently force air into the mouth, throat, and nostrils. Eriptions, cupping, bleeding, and blisters, are likewise indicated. And if, after the instant danger is removed, a fever be excited, the method of cure must be adapted to the nature and prevailing symptoms of the fever.”

With regard to the poison of opium, Dr. Mead advises what appear to us very insufficient remedies ; since, without the opium can be evacuated before it has rendered the stomach insensible to the stimulus of an emetic, nothing yet known can prevent a fatal event. He describes the following method of cure. Besides evacuations by vomiting, bleeding, and blistering, acid medicines and lixivial salts are proper. These, he says, contract the relaxed fibres, and by their diuretic force cause a depletion of the vessels,

Dr. Mead says he gave repeated doses of a mixture of salt of wormwood and juice of lemons, with extraordinary success; but that nothing is of greater consequence, than to use proper means for the prevention of sleep, by rousing and stirring the patient, and forcing him to walk about; for if he be once permitted to fall into a sound sleep, it will be found altogether impossible to awake him.

In the Medical and Physical Journal we find related the following case of the fatal effect of opium obviated, by Dr. Crowther.

“On the 30th of September, 1800,” says the doctor, “I was sent for to see a young man about 19 years of age, who, an hour before, had taken an ounce of laudanum, with a view of destroying himself. He was then in a deadly stupor, and his pulse 120 in a minute. I ordered him to be stripped, and directed two men to rub his body and limbs very freely with salt, which was persevered in, with occasional short intervals of rest, for upwards of four hours. As soon as any particular part became hot, or had a tendency to excoriate, I ordered the men to discontinue the friction on that part. He had already taken a large dose of ipecacuanha; I afterwards gave him half a drachm of vitriolated zinc, dissolved in one ounce of water. It was got into him in this way: Two tea-spoonsful were put into his mouth, he being laid on his back; his nose was then irritated with a feather dipped in liquor volat. cornu cervi, upon which he was roused, and deglutition took place. In this way the juice of three lemons were got into him. The emetic did not operate for more than an hour, and at last vomiting seemed to be effected by irritating the throat with the feather mentioned above. Afterwards we administered to him, in the same way, some wine and water, and a mixture with æther and cordial confection. Stimulating the nostrils roused him for a few seconds, and made him exert considerable muscular strength, but he relapsed again immediately into his former stupor. I ordered his nostrils to be irritated every ten minutes. He took the laudanum at eight o’clock in the evening, and the stupor did not leave him until two o’clock in the morning. At eight o’clock, A. M. he seemed perfectly recovered, complaining only of soreness in consequence of the friction.

“The indication to be kept in view in obviating the effect of opium, appears to be, as pointed out by Dr. Seaman, to produce such a degree of irritation as to counteract its soporific quality. With this intention I prescribed the emetic, the stimulation of the nostrils with liq. volat. cornu cervi, and the friction with salt. Nothing occurred to me so likely to produce an equable irritation without subsequent injury, as friction with salt. The effect it produced fully answering my expectation, I gave the

lemon juice more in compliance with custom, than from any dependance on its antidotal operation. The stomach is rendered so torpid by the opium, that very little effect can be produced by the exhibition of internal remedies."

Of a nature somewhat akin to the poison of opium seems to be that of laurel water, a simple water distilled from the leaves of the lauro-cerasus or common laurel. The bad effects of this were first observed in Ireland, where it had been customary to mix it with brandy for the sake of the flavour; and thus two women were suddenly killed by it. This gave occasion to some experiments upon dogs, in order to ascertain the malignant qualities of the water in question; and the event was as follows: All the dogs fell immediately into totterings and convulsions of the limbs, which were soon followed by a total paralysis, so that no motion could be excited even by pricking or cutting them. No inflammation was found upon dissection, in any of the internal membranes. The most remarkable thing was a great fullness and distension of the veins, in which the blood was so fluid, that even the lymph in its vessels was generally found tinged with red. The same effects were produced by the water injected into the intestines by way of clyster.

To make the experiment more fully, Dr. Nicholls prepared some of this water so strong, that about a drachm of heavy essential oil remained at the bottom of three pints of it, which by frequent shaking was again quite incorporated with it. So virulent was this water, that two ounces of it killed a middle-sized dog in less than half a minute, even while it was passing down his throat. The poison appeared to reside entirely in the above-mentioned essential oil, which comes over by distillation, not only from the leaves of laurel, but from some other vegetables; for ten drops of red oil distilled from bitter almonds, when mixed with half an ounce of water, and given to a dog, killed him in less than half an hour.

Volatile alkalies are said to be an antidote to this poison; of which Dr. Mead gives the following instance. About an ounce of strong laurel-water was given to a small dog. He fell immediately into the most violent convulsions, which were soon followed by a total loss of motion. When he seemed to be expiring, a vial of good spirit of sal ammoniac was held to his nose, and a small quantity of the same forced down his throat: he instantly felt its virtue; and by continuing the use of it for some time, he by degrees recovered the motion of his legs; and in two hours walked about with tolerable strength, and was afterwards quite well.

The late Dr. Houlston, of Liverpool, published the following case of a boy poisoned by the root of hemlock dropwort; a plant

whose noxious effects seem to resemble those of the substances just enumerated.

“ On the 19th of June, 1781, the eldest son of the Rev. Mr. Kirkpatrick, about nine years old, rambling with several other children in the fields adjoining to the Leeds canal, near Liverpool, gathered, and gave to the others, a number of the roots of the hemlock dropwort, which he believed were *earth-nuts*, and of which he eat a much greater quantity than the rest. As he was returning home he grew giddy; and if he had not been prevented, would have reeled into the canal. His inability to direct his motions increased gradually, and he was soon affected with stupor and convulsions. His mother, apprised of his situation, speedily came to him, and immediately, as she said, conceived the idea of his having eaten something, the effects of which were similar to the poison administered to Sir Theodosius Boughton, till which time no such thing had been apprehended. Some water out of the canal was given him to drink, and he vomited a considerable quantity of the root he had swallowed: he, however, grew worse, raved, became heavy, and convulsed, and was carried into a house adjoining. Mr. Shertcliffe, a surgeon in the neighbourhood, was sent for; who, with a view to evacuate what he had taken, gave him a solution of emetic tartar, and a purgative clyster.

“ He had swallowed at least twenty grains of the tartar emetic when I was sent for to him about eight in the evening. I found him quite in the epileptic state, with the pupil of the eye vastly dilated, total insensibility, and all the appearance of a person in the last degree of intoxication. Convinced, that unless the contents of the stomach could be expelled, no hope of his recovery remained, I gave, in solution, a scruple of white vitriol, most part of which was got down.

“ The convulsions for some time past had been strong and frequent; they seemed to begin with an effort, as it were, to vomit (though after he got into the house he never vomited in the least). The head was drawn to the right side, and thrown back, general spasms succeeded, the eyes started prodigiously out from the sockets, and the tongue was thrust out and forcibly bit. Some æther was sent for; and I poured a small quantity into the mouth, on the temples, &c. It was thought at times to relieve the fits, which interrupted the circulation so as to render the pulse imperceptible, and often to give reason to suppose it was irrecoverably stopped. In this manner, however, the scene was closed at last, rather placidly, about ten o'clock at night, after he had suffered thus above four hours. The respiration, though slow, continued tolerably easy almost to the last. The clyster operated a little before he died, and a very offensive stool followed.

“ Notwithstanding the boy had thrown up a considerable quantity of the root, yet I had no doubt, but that such a part of what he had eaten remained in the stomach, as would render every effort to save him ineffectual. The event unfortunately answered my expectation, and dissection confirmed the truth of the conjecture. Mr. Shertcliffe found in the stomach above an handful of the root; and noticed, very sensibly, the smell peculiar to it the moment he cut into the cellular membrane, though it was not twenty-four hours after death.

“ It was at first supposed, that what the boys had gathered and eaten was the water-parsnip; and afterwards, that it was the water-hemlock. Indeed Boerhaave, in his *Historia Plantarum*, under the article *Sium* (water-parsnip), commends the first species for its aperient, emollient, and detergent qualities; but adds, ‘ that he never dared to administer it, from the resemblance which it bears to the second species, the *cicuta aquatica*, of which those who have eaten, unless relieved by vomiting, died dreadfully and singularly convulsed.’ The latter (the water hemlock); which is extremely poisonous, is frequently confounded also with the hemlock dropwort, the plant now spoken of; which is equally dangerous, and is termed by Lobel, Ray, and others, *cœnanthe cicutæ facie*. This, however, it is certain, was the one pitched upon by the boy who with difficulty recovered, as the root he and his companions had eaten of.

“ Four of the boys in company had partaken, though more sparingly, of the noxious repast; but, on the first alarm, vomits having been exhibited, they all escaped. One, however, was with difficulty made to vomit, though he took largely both emetic tartar and ipecacuanha; and he was affected with giddiness, drowsiness, and twitching so much, that for some hours his recovery remained doubtful. He told me he had eaten a root and a half; and more than two hours had elapsed before he was sensibly affected by it.”

In 1746, Dr. Watson communicated to the Royal Society an account of several French prisoners poisoned at Pembroke by the hemlock dropwort; but he found persons were not sufficiently apprised of the danger from that plant, notwithstanding this account had been published in the *Philosophical Transactions* and the public papers; and therefore, in the 50th Volume (1758), he gave another instance in the case of — Mildane, a cabinet-maker of Havant in Hampshire, who took about five spoonfuls of the juice of this root instead of the water-parsnip, and was soon after seized with vomiting and convulsions, in which he immediately died.

Dr. Houlston had also the merit of proposing a remedy for another species of poison, namely, the *swallowing of ardent spirits* in large quantities, which, in various instances, in that town, had

occasioned death. We shall here give his own account of the process, by which some persons in this unhappy predicament were recovered.

“Many persons,” he observes, in his *Essay on Poisons*, “are suddenly destroyed by drinking large quantities of spirits. Their first effects are stimulant; they quicken the circulation, and occasion much blood to be thrown upon the head. They afterwards prove sedative; they bring on stupor; loss of reason, total; of motion and sensation, almost total. Their effects may be partly owing to their entering, in some degree, into the circulation; but depend chiefly, when violent, on their action on the nerves of the stomach. In consequence the brain is affected, and the nervous influence suspended, if not destroyed. All the parts of the body, therefore, partake of this insensibility. As the skin in some cases may be burnt even without feeling, so the stomach and intestines may be stimulated considerably without any effect. The motion of the heart and lungs is much enfeebled and interrupted, but continues irregularly till death ensues.

“To rescue the person from so dangerous a state is extremely difficult. To counteract these effects by medicine is less likely, both as the power of swallowing is lost, and as probably little or no absorption then takes place. But we ought to endeavour, First, to evacuate the poison; or else, Secondly, to dilute it, and thereby weaken its action. With a view to the first, brisk vomits may be given; but, from the want of irritability of the stomach, these often will not act, unless given early, when they are of great service in case of intoxication. A dock-porter, who died in the Liverpool infirmary, Feb. 28, 1780, got down over night nearly twelve grains of emetic tartar, dissolved; yet it produced little or no effect, though he lived till the next day. Purges are also proper, but liable, though in a less degree, to the same objection. Sharp clysters may be administered, and will produce some evacuation, but their operation does not extend far enough. Large clysters of water only, or of water in which purging salts are dissolved, thrown up with some force by a syringe, might be of more service.

“Oil has been advised to be given, to help to evacuate the spirit, or to weaken its action.—But when the inactivity of the stomach is become so great, and the danger so pressing, there seems more reason to expect success from largely diluting that poison, which we in vain attempt to evacuate. When intoxication has been produced by drinking strong liquors, large quantities of water or weak liquids drank, are found to lessen it very considerably. And though the power of swallowing be lost, yet by means of a pipe (as a flexible catheter) passed beyond the glottis, or even down into the stomach, water might be poured in, in such a quantity as was judged sufficient to dilute and carry off the

liquor in the stomach. To the water might be added, with advantage probably, vinegar, or any kind of acid; or purgatives might be dissolved in it, to facilitate the poison's passing off by the intestines. A pipe of this kind too would afford the best method of introducing substances into the stomach, to promote vomiting.

“ Putting the body into a *warm bath*, or the legs and feet in warm water, will be of use, by lessening the quantity of blood accumulated in the head, and in the larger vessels; and some of the water may, perhaps, be absorbed. With a view to relieve the oppression, bleeding, and opening the temporal artery, are advisable. If the pulse is found to become freer and fuller on losing some blood, more may be taken away. Blisters may also be applied with advantage.

“ The coldness of the extremities, and the evident difficulty with which the circulation is kept up, point out the propriety of assisting it by warmth and friction applied to the skin (as in recovering drowned persons). Motion, to prevent sleep, may be essentially serviceable in such cases. Great care should be taken to loosen the neck-band, garters, and every kind of bandage; and that the body should lie in a natural, easy, posture; on the side is, perhaps, better than the belly, though that has been recommended, that the stomach might the easier discharge its contents. The breathing should not be obstructed, nor the neck lie low or in a bent position.”

With regard to the pernicious effects of cold, there is no other way of counteracting them but by the application of external heat. We are apt to imagine, that the swallowing considerable quantities of ardent spirits may be a means of making us resist the cold, and preventing the bad effects of it from arising to such a height as to destroy life; but these do not appear to be in the least possessed of any such virtue in those countries liable to great excesses of cold. The Peruvian bark (*vide formulæ*, No. 51. and 150.), by strengthening the solids, as well as increasing the motion of the fluids, is found to answer better than any other thing as a preservative: but when the pernicious effects have already begun to discover themselves, nothing but increasing, by some means or other, the heat of the body, can possibly be depended upon: and even this must be attempted very gradually; for as in such cases there is generally a tendency to mortification in some of the extremities. The sudden application of heat will certainly increase this tendency to such a degree as to destroy the parts. But the subject, in general, as well as the external treatment of such mortifications, belongs to *Surgery*.

The consideration of those poisons whose action is exerted *chemically* on the stomach, is reserved for another part of our work, as they do not properly belong to the Genus APOPLEXYA.

Sp. VII. APOPLEXY from *Passions* of the *Mind*,

Carus a pathemate, *Sauv.* sp. 11.

Aspleyia, a pathemate, *Sauv.* sp. 7.

Ecclasis catoche, *Sauv.* sp. 1.

Ecclasis resoluta, *Sauv.* sp. 2.

APOPLEXIES from violent passions may be either sanguineous or serous, though more commonly of the former than the latter species. The treatment is the same in either case. Or they may partake of the nature of catalepsy; in which case the method of treatment is the same with that of the genuine catalepsy.

Sp. VIII. The *Cataleptic* APOPLEXY.

Catalepsis, *Sauv.* gen. 176. *Lin.* 129. *Vog.* 230. *Sag.* gen. 281. *Boerb.* 1046. *Junck.* 44.

Dr. Cullen says he has never seen the *Catalepsy* except when counterfeited; and is of opinion that many of those cases related by other authors have also been counterfeited. It is said to come on suddenly; being only preceded by some languor of body and mind; and to return by paroxysms. The patients are said to be for some minutes, sometimes (though rarely) for some hours, deprived of their senses, and all power of voluntary motion; but constantly retaining the position in which they were first seized, whether lying or sitting; and if the limbs be put into any other posture during the fit, they will keep the posture in which they are placed. When they recover from the paroxysm, they remember nothing of what passed during the time of it, but are like persons awaked out of a sleep.

A medical gentleman about fifteen years ago, had seemingly a true cataleptic attack; of which, with many assurances of the truth of his narrative, he published the following account in the *British Magazine* for March, 1800:

In the summer of the year 1776, he became suddenly indisposed whilst seated with others at tea, at a short distance from the table; and, in reaching out his hand to put down his cup, was seized with a conscious inability either to advance or withdraw it, though the act proposed was already half performed. On attempting to make towards the door, he became fixed, in a standing posture, in the midst of the attempt, but recovered his powers in the space of a very few minutes; having felt, during the paroxysm, no pain whatever, though alive to much mental feeling, and to a strong sense of shame at the ludicrous appearance he supposed himself to have exhibited to the company present.

Whether any cordial or other medicine was then exhibited he cannot now recollect; but on being led into the open air he recovered, and had no return of the complaint for that evening. On the following day, however, and on several occasions for a week or ten days afterwards, he was subject to similar attacks, which were as much as possible resisted by an inward resolution not to be overpowered; and this effort seemed in general greatly assisted by the agitation of his spirits, which brought on a flushing of the countenance, perspiration, and a manifest determination of the blood to the surface of the body.

These attacks never afterwards produced that state of transposition which occurred at their commencement, though it is the writer's opinion, they would have gone that length had he not resolutely combated them on the onset, either by suddenly changing his posture, attending eagerly to some new object, or, if attacked when walking (which frequently happened), by running full speed till his feelings convinced him the disposition to a regular paroxysm had subsided. He was most exposed to them in the forenoon; felt, on their approach, a slight disposition to syncope; and remarked that a stooping posture, and offensive smells, such as his diurnal engagements in a country hospital necessarily exposed him to, were often the means of bringing on the complaint.

The proximate cause, in this instance, cannot be clearly assigned; but the predisposing causes were, in all probability, the following: The writer had been much debilitated by bodily fatigues in business, by night studies, and by an unnecessary mercurial course; but above all, it had long been a part of his duty, as pupil to a surgeon of very extensive practice in a western part of the kingdom, to prepare, over a charcoal fire, *Goulard's extract of lead*, as it was then called, and of which greater quantities were demanded than at present. Both in the preparing of this, and in the subsequent application of it to ulcers, inflammations, fractures, &c. there was almost a continual application of lead, to the hands at least, if not accidentally to other parts of the body.

The writer's inexperience at that time precluded those cautions which a decisive knowledge of the deleterious effects to be apprehended from the absorption of lead would have induced him to adopt. But this remark applies also to a fact of yet more importance, perhaps, to the subject in question, and which it is necessary to mention. The preparation of the saturnine extract was always carried on in a close room, and in a vessel placed over a charcoal fire. Were it in his recollection that the attack he experienced immediately succeeded his exposure to the fumes of charcoal, something like a proximate cause might be assigned. But though he is disposed to think that that really was the fact, his intention to adhere rigidly to the truth in this history of an

unusual malady will not allow him to assert it. On the contrary, supposing the *catalepsis a fumo* (of Sauvages) to have been really risked; the effects of the charcoal fire must have been evinced in a more sudden way, and on the spot; whereas no previous indisposition was perceived, and if it had, the exposure to fresh air, in walking across a small garden, would probably have dissipated every sign of it.

How far the fumes of charcoal are capable of remote effects must be left to the judgment of those who have paid particular attention to that subject. Coelius Aurelianus expressly says, that those who are injured by the fumes of charcoal become cataleptic; and there is no reason to doubt but a repeated exposure to them, though not producing any present inconvenience, may at least lay the foundation of such a disease.

The attack here described (continues the writer), cannot perhaps be considered as one very violent or lasting; but it is sufficient to demonstrate all that the relator undertakes, namely, that the human body is actually liable to such a disease. It is easy to conceive that the singular nature of the attack may have led many to practise on the credulity of the public, and the disbelief of the celebrated Cullen having, no doubt, been justified in repeated instances, deserves to be treated with the utmost respect; but *magna est veritas et prevalebit*: the transfixion which occurred, and which is the striking and decisive characteristic of the disease, places the possibility of its occurrence beyond all dispute, whatever were the causes which produced it.

This insertion produced the following, of which we know the facts not to have been misstated.

“Some time about the forty-fifth year of my age (says the writer, a gentleman of eighty years old at Liverpool), when recovering from a nervous fever, accompanied with symptoms of tetanus, which had left me in a state of extreme debility, though my mental faculties (the power of volition under all circumstances excepted) were unimpaired, I was subject to occasional transfixions, somewhat resembling those which occur in catalepsy. These, however, only took place when I happened to have walked beyond reach of the wall, or of the furniture in my apartment; for if by extending my arm I could touch either, the spell was dissolved, and I could proceed with as much freedom as I wished. This troublesome impediment to loco-motion continued many weeks; but, as may be supposed, not without many efforts and contrivances on my part to counteract it; and I at last hit upon the following extraordinary way of relieving myself.

“Whenever I found I had wandered too far, the method I took was, to rest on my heels and move my feet towards the wall or neighbouring object, by which a little progressive motion being gained, I transferred my centre of gravity to the fore part

of my foot, and moved my heels in the same direction; thus, as it were, shuffling to the spot I wished to attain; and when once within the reach of any thing capable of supporting me, I could walk as before, without even touching it. Thus, when addressed by an old acquaintance riding past the court-yard of a country-house where I was taking the air, I became in an instant fixed to the ground like the trees that surrounded me, till by the method I have described, I got within reach of the walls, and recovered the customary influence over the muscles of my legs."

A third writer very justly remarks on these cases, that if they were truly cataleptic, they were at least slight; for, although one striking character of the disease (transfixion) was present, yet the definition given by every medical writer requires, in addition to the fixt position, that there should be, to constitute catalepsy, an abolition both of the external and internal senses.

The disease is thus defined by Home in his *Principia Medicinæ*, and his definition seems to be very similar to that of every other medical author who has treated of the complaint.

"*Catalepsis seu Catechus, morbus dicitur, quando fixus remanet æger in eodem statu quo prehensus fuit, sensibus internis ex externis abolitis.*"

Now, in the instances recorded, the mental faculties were unimpaired, even when the transfixion was strongest; nor were the external senses affected: the power of certain muscles to obey volition was alone deficient.

The following singular case of this kind appears in a volume of medical miscellanies, published many years since by a society of gentlemen in London. It was written in Latin by M. Gaultier, a French physician, resident in Berlin, and published some time afterwards, with observations, by the academician M. Formey.

The widow of *Sieur Vignoles*, a French refugee, at Berlin, had been afflicted for 25 years with a kind of periodical catalepsy, of which she had two returns every day, one at day-break, or at least before sun-rise, the other about noon. It was much the same at all seasons of the year, insomuch that the paroxysm began sooner or later, according to the length or shortness of the days. At the periods of attack she dropped into the most profound sleep, accompanied with an entire privation of all feeling both external and internal, and the transition was so sudden, that it was difficult to observe it. Her limbs became perfectly rigid, and continued precisely in the same situation in which they were at the instants when the paroxysms came on. Her pulse was small, but equal; and her respiration, though weak, was also free as in the most natural sleep. Pulling, shaking, even cuppings and deep scarifications, could not remove, in the smallest degree, the lethargy, nor produce the slightest mark of sensibility.

Twice a-day, that is to say, towards noon, and between seven and eight in the evening, this strange sleep went off of itself; but the first recovery was not complete; the inferior parts still remained stiff and deprived of feeling, and the interval was, besides, so short, that the patient had scarcely time to swallow a little broth, before the fit returned.

In the evening she awoke entirely; all the parts of her body, the inferior as well as the superior, recovered their flexibility and their feeling, so that the patient could rise and walk about in her chamber as long as she pleased.

The relaxation continued from eight o'clock in the evening to the dawning of the next day, which never failed to bring on the sleep again, and every day these astonishing alternatives were renewed with the most punctual regularity.

Her partial recovery about noon was preceded by quivering, and afterwards violent agitations in the lower jaw, convulsive motions in the fingers, thumbs, lips, and eyelids: the head, if inclined, resumed its natural position; the patient raised herself up, seemed to groan, and uttered inarticulate sounds. She then rubbed her hands together, at length opened her eyes, observed the spectators, and began to talk rationally.

These, and other analogous circumstances, usually took up about half an hour.

The termination of each of these attacks was infallibly announced, two or three days before it happened, by a copious flow of acrid saliva which excoriated the parts over which it flowed.

Sometimes the fits of this disease continued six months; at others, a year; and one, which commenced soon after the death of her husband, lasted two years and a half.

The intervals of relief corresponded usually with the duration of the preceding access: in these the disease disappeared entirely; the patient enjoyed good health, and could attend to domestic concerns without pain or inconvenience.

This lady, in the early part of her life, had been subject to hysteric complaints, accompanied with convulsive motions so violent as to prove exceedingly distressing: at the age of 24 years she married, and had many children of both sexes, none of whom ever experienced the mother's disorder.

Almost all the physicians of Europe were consulted about this case; no benefit however was derived from their various prescriptions: the precise time when this disease ceased is not known, but she died of a dropsy at the age of 80, and there did not appear to be the smallest analogy between her last illness and her preceding situation.

Tonic remedies, above all, electricity, seem to be adapted to a disease of this nature; since there is no known agent so powerful as the electric fluid in stimulating the nerves and recovering

the healthy actions of muscles; a circumstance abundantly instanced by its efficacy in the cure of palsies, and other analogous disorders.

In one case of catalepsy this powerful remedy was effectually applied: it is very succinctly related by the Abbé Bertholon: "On a guéri par-là," says he, speaking of electricity, "en 1782, une femme sujette à la catalepsie, qui, dans un des ses accès, resta plus de trente jours dans un état d'immobilité parfaite, sans boire ni manger."

The following observation of De Haen, seems corroborative of the idea that electricity is adapted to the removal of lethargic complaints.

"Benedictus Eringer vertigine et somnolentiæ corripitur: vix decem ictus sustinuerat, quin curatum se diceret, perfectissimeque curatus manet hucusque."

Cases of catalepsy may be found in the Journal des Savans, Jan. 1776; ed. Amster. p. 232.—Histoire de l'Acad. des Scienc. de Paris, 1738, et Mem. 1742. Col. Acad. Part. Etr. t. III. p. 432, et tom. VII. p. 271. Encyclop. Franc. Art. *Assaupissement*.

Concerning the cure of this disorder, having already pointed out electricity, we find nothing that can well be depended upon among medical writers. Dr. Hugh Smith, without making any remarks on the disease, gives us the following formulæ: (No. 265.) R Pluv. rad. ipecacuanhæ, ʒss.

Antim. tartar. gr. iij.

Misce fiat pulv. emetic. cum regimine sumend.

(No. 266.) Vel. R Cupri vitriol. gr. ij.

Aq. fontan. ʒij.

Syr. simp. ʒj.

Misce fiat haust. emetic. mane sumendus. Applicetur epispastic. spinæ dors.

(No. 267.) R Sem. sinap. trit.

Rad. raphan. rust. contus. aa. ʒss.

Aceti q. f.

Fiat cataplasma. plant. ped. applicand.

(No. 268.) R Gum. assafœtid. ʒj. solve in

Aq. cinnam. ten. ʒvij.

Adde Tinct. valer. vol. ʒj.

Misce capiat coch. ij. tertia quaque hora.

Sp. IX. APOPLEXY from Suffocation.

Asphyxia suspenforum, Sauv. sp. 4.

Asphyxia immerforum, Sauv. sp. 1.

This is that kind of apoplexy which takes place in those who

are hanged or drowned. Falling mostly under the cognifance of the furgeon, it is treated under Suspended Animation, in Vol. IV.

Befides the fpecies above mentioned, the apoplexy is a fymptom in many other diftempers, fuch as fevers, both continued and intermitting, exanthemata, hyfteria, epilepsy, gout, worms, ifchuria, and fcurvy.

GENUS XLIII. PARALYSIS.

PALSY.

Paralyfis, *Boerb.* 1057.

Hemiplegia, *Sauv.* gen. 170. *Lin.* 103. *Vog.* 220.

Paraplexia, *Sauv.* gen. 171.

Paraplegia, *Lin.* 102. *Vog.* 227.

Paralyfis, *Sauv.* gen. 169. *Lin.* 104. *Vog.* 226. *Junck.* 115.

Atonia, *Lin.* 120.

Sp. I. The *Partial Palsy*.

Paralyfis, *Sauv.* gen. 169. *Lin.* 104. *Vog.* 226. *Junck.* 115.

Paralyfis plethorica, *Sauv.* fp. 1.

Paralyfis ferofa, *Sauv.* fp. 12.

Paralyfis nervea, *Sauv.* fp. 11.

Mutitas a gloffolyfi, *Sauv.* fp. 1.

Aphonia paralytica, *Sauv.* fp. 8.

Sp. II. HEMIPLEGIA, or *Palsy of one fide* of the Body.

Hemiplegia, *Sauv.* gen. 170. *Lin.* 108. *Vog.* 228. *Sag.* gen. 276.

Hemiplegia ex apoplexia, *Sauv.* fp. 7.

Hemiplegia fpafmodica, *Sauv.* fp. 2.

Hemiplegia ferofa, *Sauv.* fp. 10.

Sp. III. PARAPLEGIA, or *Palsy of one half* of the Body taken tranverfely.

Paraplexia, *Sauv.* gen. 171. *Sag.* gen. 277.

Paraplegia, *Lin.* 102. *Vog.* 227.

Paraplexia fanguinea, *Sauv.* fp. 2.

Paraplexia a fpina bifida, *Sauv.* fp. 3.

Paraplexia rheumatica, *Sauv.* fp. 1.

1. *Description.*] The palsy under all the different forms here mentioned as a particular species, shews itself by a sudden loss of tone and vital power in a certain part of the body. In the slighter degrees of the disease, it only affects a particular muscle, as the sphincter of the anus or bladder, thus occasioning an involuntary discharge of excrements or of urine; of the muscles of the tongue, which occasions stammering, or loss of speech; of the muscles of the larynx, by which the patient becomes unable to swallow solids, and sometimes even liquids also.—In the higher degrees of the disease, the paralytic affection is diffused over a whole limb, as the foot, leg, hand, or arm; and sometimes it affects a whole side of the body, in which case it is called *hemiplegia*; and sometimes, which is the most violent case, it affects all parts below the waste, or even below the head, though this last is exceedingly rare. In these violent cases the speech is either very much impeded, or totally lost. Convulsions often take place in the sound side, with the cynic spasm or involuntary laughter, and other distortions of the face. Sometimes the whole paralytic part of the body becomes livid, or even mortifies before the patient's death; and sometimes the paralytic parts gradually decay and shrivel up, so as to become much less than before. Whether the disease be more or less extended, many different varieties may be observed in its form. Sometimes there occurs a total loss of sense while motion is entire; in others a total loss of motion, with very slight or even no affection of sense; and in some cases, while a total loss of motion takes place in one side, a total loss of sense has been observed on the other. This depends entirely on the particular nerves or branches of nerves in which the affection is situated; loss of sense depending on an affection of the subcutaneous nerves; and loss of motion on an affection of those leading to the muscles.

2. *Causes, &c.*] Palsies most commonly supervene upon the different species of coma, especially the apoplexy. They are also occasioned by any debilitating power applied to the body, especially by excesses in venery. Sometimes they are a kind of crisis to other diseases, as the colic of Poidou, and the apoplexy. The hemiplegia especially often follows the last-mentioned disease. Aged people, and those who are by any other means debilitated, are subject to palsy; which will sometimes also affect even infants, from the repulsion of exanthemata of various kinds. Palsies are also the infallible consequence of injuries of the large nerves.

3. *Prognosis.*] Except in the slighter cases of palsy, we have little room to hope for a cure; however, death does not immediately follow even the most severe paralytic affections. In an hemiplegia it is not uncommon to see the patients live several years; and even in the paraplegia, if death do not ensue within

two or three weeks, it may not take place for a considerable time. It is a promising sign when the patient feels a slight degree of painful itchininess in the affected parts; and if a fever should arise, it bids fair to cure the palsy. When the sense of feeling remains, there is much more room to hope for a cure than where it is gone, as well as the power of motion. But when we observe the flesh to waste, and the skin to appear withered and dry, we may look upon the disease to be incurable. Convulsions supervening on a palsy are a fatal sign.

4. *Cure.*] Many remedies have been recommended in palsies, but it must be confessed, that, except in the slighter cases, medicines seldom prove effectual; and before any scheme of cure can be laid down, every circumstance relative to the patient's habit of body and previous state of health should be carefully weighed. If an hemiplegia or paraplegia should come on after an apoplexy, attended with those circumstances which physicians have supposed to denote a viscid state of the blood, a course of the attenuant gums, with fixed alkaline salts, and chalybeate waters, may do service; to which it will be proper to add frictions with the volatile liniment (No. 87. or 91.) all down the spine: but in habits where the blood is inclined to the watery state, it will be necessary to give emetics from time to time; to apply blisters, and to cut issues.

The natural hot baths are often found useful in paralytic cases; and where the patients cannot avail themselves of these, an artificial bath may be tried by dissolving salt of steel in water, and impregnating the water with fixed air. Frictions of the parts and scouring them with nettles, have also been recommended and may do service, as well as volatile and stimulating medicines taken inwardly. And it is probably by operating in this manner that the use of camphor, or a mercurial course continued for some length of time to such a degree as gently to affect the mouth, have been found productive of a cure in obstinate cases of this affection. With a view of giving these more in detail we shall here cite the curative plans of Dr. Saunders and the late Dr. Hugh Smith.

Dr. Saunders says, the cure is best effected by the following means:

(1) By bleeding in plethoric and inflammatory habits, in cases where the attack has been sudden, and where the head is much affected: in other cases it is to be avoided.

(2) By active purgatives and stimulating clysters, except in very old habits.

(3) By the use of volatile and diffusive stimulants, taken internally, or applied externally.

(4) In some cases where the head has not been much affected; vomits have been useful.

(5) External warmth, but more particularly bathing in the hot bath, or Bath water.

(6) Various external applications; blisters, warm plasters, volatile and acrid liniments, friction, and electricity.

Conformably to this plan of treatment, the doctor directs the following to be employed according to existing circumstances:

(No. 269.) \mathcal{R} Ammoniaæ præp. gr. vj.

Tinct. Cardam. comp. 3j.

Aq. Pulegii 3iss.

Syr. cor. aurant. 3j. Misce.

Fiat Haustus, sexta quavis hora capiendus.

(No. 270.) \mathcal{R} Linim. sapon. 3iss.

Tinct. cantharid. 3ss. M.

Sit Linimentum quo partes adfectæ perfricandæ sunt.

(No. 271.) \mathcal{R} Colocynthid. 3j.

Aq. fervent. 3x.

Coque per sextam horæ partem, et liquori colato, adhuc tepido, admisce,

Syr. Spin. Cerv. 3j. ut fiat Enema.

(No. 272.) \mathcal{R} Sinap. sem. contus.

Raphan. rust. incis. sing. 3vj.

Aq. fervent. lib. j.

Macera in vase operto et liquorem cola, cui addantur,

Sp. Pimento 3ij.

Sumantur unciaæ duæ bis terve indies.

Dr. Hugh Smith says, if a palsy succeed to an apoplexy, the remedies required for the relief of apoplectic symptoms will be advisable; principally the warm, nervous, stimulating medicines, with blisters and sinapisms.

If the disease should be owing to rheumatic affection; this, of all other species of Palsy, admits the easiest of a cure; and, by treating it as a rheumatism, is most frequently relieved.

Blisters and stimulating applications to the parts affected, with the attenuating, heating medicines internally, will be necessary and useful.

(No. 273.) \mathcal{R} Unguent. virid. 3j.

Ol. succin. 3jß.

Acid. vitriol. 3j.

Misce fiat Linim. part. affect. usurpand.

(No. 274.) \mathcal{R} Pulv. ari comp. 3ij.

Ol. terebinth. æther. gtt. xxx.

Syr. zingib. q. s. ut fit. Bol. octava quâque horâ fumend. superbibend. infus. seq. coch. vj.

(No. 275.) \mathcal{R} Sem. sinapios.

Rad. raphani rust. aa 3j.

Canellæ alb. 3ß.

Vin. alb. Lisbon. 1ßj. Infund. per duas vel tres dies, deinde cola.

(No. 276.) R̄ Decoct. cinchonæ ʒij.
Tinct. guaiac. vol. ʒj.
Vin. antimonial. ʒij.

Misce fiat Haust. sexta quâque horâ sumendus.

The electrical shock is often serviceable in paralytic cases; perhaps principally in this species of the disease.

The cold bath, under proper circumstances, has likewise its advantages.

The palsy, from mineral exhalations, may be relieved by the warm, nervous, deobstruent medicines, and blisters, upon or near to the part affected.

(No. 277.) R̄ Balf. Peruvian. ʒß (solv. vit. ovi)
Adde Aq. cinnam. ten.

Aq. fontan. aa ʒj.

Spt. vol. aromatic.

Syr. croci, aa ʒj.

Misce fiat Haust. ter die sumendus.

(No. 278.) R̄ Lact. ammoniac.

Aq. cinnam. ten aa. ʒiiij.

Sp. vol. foetid. ʒiiij.

Syr. balsamic. ʒvi.

Fiat Mistura sumend. coch iij. vel iv. bis terve de die.

An infusion of the *arnica montana* or German leopard's bane, has been highly extolled in the cure of this disease by some foreign writers: but the trials made with it in Britain, particularly at Edinburgh, have been by no means equally successful with those related by Dr. Collins, who has strongly recommended this medicine to the attention of the public.

Sp. IV. The PALSY from Poisons.

Paralysis metallariorum, *Sauv.* sp. 22.

Hemiplegia saturnina, *Sauv.* sp. 14.

This kind of palsy arises most frequently from lead, gradually and in imperceptible quantities taken into the body; and is a consequence of the *colica pictonum*, under which head it is more particularly treated.

TREMOR, or TREMBLING.

Tremor, *Sauv.* gen. 129. *Lin.* 139. *Vog.* 184. *Sag.* 236.

This by Dr. Cullen is reckoned to be always symptomatic either of palsy, asthenia, or convulsions; and therefore need not be treated of by itself.

ORDER II. ADYNAMIÆ.

ADYNAMIÆ, *Vog.* Clafs VI.Defectivi, *Lin.* Clafs VI. Order I.Leipopsychiæ, *Sauv.* Clafs VI. Order IV. *Sag.* Clafs IX. Order IV.

GENUS XLIV. SYNCOPE.

FAINTING.

Syncope, *Sauv.* gen. 174. *Sag.* 94. *Vog.* 274. *Sag.* 280.
Junck. 119.
 Leipothymia, *Sauv.* gen. 173. *Lin.* 93. *Vog.* 273. *Sag.* 279.
 Asphyxia, *Sauv.* gen. 175. *Lin.* 95. *Vog.* 275. *Sag.* 281.
 Virium lapsus et animi deliquia. *Hoff.* III. 267.

Sp. I. The Cardiac Syncope.

Syncope plethorica, *Sauv.* sp. 5. *Senac.* Tr. de Cœur, p. 540.
 Syncope a cardiogmo, *Sauv.* sp. 7. *Senac.* de Cœur, 414. *Morgagn.*
 de Sed. XXV. 2. 3. 10.
 Syncope a polypo, *Sauv.* sp. 8. *Senac.* p. 471.
 Syncope ab hydrocardia, *Sauv.* sp. 12. *Senac.* 533. *Schreiber.*
Almag. L. III. §. 196.
 Syncope *Lanzoni*, *Sauv.* sp. 18. *Lanzon.* Op. p. 462.
 Asphyxia Valsalviana, *Sauv.* sp. 13.

Sp. II. Occasional Syncope.

Leipothymia a pathemate, *Sauv.* sp. 1. *Senac.* p. 544.
 Syncope pathetica, *Sauv.* sp. 21.
 Asphyxia a pathemate, *Sauv.* sp. 7.
 Syncope ab antipathia, *Sauv.* sp. 9. *Senac.* p. 544.
 Syncope a veneno, *Sauv.* sp. 10. *Senac.* p. 546.
 Syncope ab apostematis, *Sauv.* sp. 11. *Senac.* p. 554.
 Syncope a sphacelo, *Sauv.* sp. 14. *Senac.* p. 553.
 Syncope ab inanitione, *Sauv.* sp. 1. *Senac.* p. 536.
 Syncope a phlebotomia, *Sauv.* sp. 4.
 Syncope a dolore, *Sauv.* sp. 2. *Senac.* p. 583.
 Asphyxia traumatica, *Sauv.* 14.
 Asphyxia neophytorum, *Sauv.* sp. 17.
 Syncope anginosa, *Parry.*

1. *Description.*] A syncope begins with a remarkable anxiety about the heart; after which follows a sudden extinction, as it were, not only of the animal powers and actions, but also of the vital powers, so that the patients are deprived of pulse, sense, and motion, all at once. In those cases which physicians have distinguished by the name of *leipothymia*, the patient does not entirely lose his senses, but turns cold and pale; and the pulse continues to beat, though weakly; the heart also seems to tremble rather than beat: and the respiration is just perceptible. But in the true syncope or full asphyxia, not the smallest sign of life can be perceived; the face hath a death-like paleness, the extremities are cold, the eyes shut, or at least troubled; the mouth sometimes shut, and sometimes gaping wide open; the limbs flaccid, and the strength quite gone: as soon as they begin to recover, they fetch deep and heavy sighs.

2. *Causes, &c.*] Fainting is occasioned most commonly by profuse evacuations, especially of blood; but it may happen also from violent passions of the mind, from surfeits, excessive pain, &c. People of delicate constitutions are very subject to it from slight causes; and sometimes it will arise from affections of the heart and large vessels not easy to be understood. Fainting is also a symptom of many disorders, especially of that inaccurately called a *polypus of the heart*, of the plague, and many putrid diseases.

3. *Prognosis.*] When fainting happens in the beginning of any acute disease, it is by no means a good omen; but when it takes place in the increase or at the height of the disease, the danger is somewhat less; but in general, when fainting comes on without any evident cause, it is to be dreaded. In violent hæmorrhagies it is favourable; as the bleeding vessels thus have time to contract and recover themselves, and thus the patient may escape.

4. *Cure.*] When persons of a full habit faint through excess of passion, they ought to be blooded without delay, and should drink now and then the following; so as to occasion stools:

(No. 279.) ℞ Cryst. tartar. ʒj.

Fruet. tamarind. ʒij.

Mannæ opt. ʒss.

Aq. bullient. lib. j.

Fiat solutio, cujus capiat cyath. mane et nocte, vel pro re nata.

After the bowels have been emptied by the clyster (No. 34.), the patient should take the draught (No. 33.), and go to bed.

The passion of anger, in a peculiar manner, affects the biliary secretion, causes an oppression at the stomach, with nausea and retching to vomit, and a bitter taste in the mouth, with giddiness: these symptoms require a gentle emetic, such as large draughts of carduus or camomile tea, or (No. 159.), exhibited in small doses,

from time to time, till the effect is produced. Some think, however, in these cases, that vomiting should be carefully avoided, as tending to endanger the patient, by bringing on an inflammation of the stomach, but there appears to be no just ground for this.

The general effects of a sudden fright have been mentioned on a former occasion. When these are so violent as to require medical aid, our first endeavours must be to take off the spasmodic constriction, and restore freedom to the circulation by bleeding, if the habit be at all inclined to fulness; and in some cases by giving,

(No. 280.) \mathcal{R} Vin. antimon. tart.

Tinct. opii camph. sing. \mathfrak{z} ss. M.

Detur gutt. xl. ad lx. ex quovis vehiculo.

This remedy will bring on sleep and encourage perspiration. It was formerly mentioned, that convulsions, or even epilepsy, may be brought on by frights; which should make people cautious of playing foolish tricks in this way.

When a surfeit, or any species of saburra, occasions a leipothymia, the emetic (No. 1.) is the immediate remedy, as soon as the patient, by the help of acrid stimulants, shall be so far roused as to be able to swallow one: in these cases, tickling the fauces with a feather dipped in spirit of hartshorn, will be proper, not only to rouse the patient, but also to bring on vomiting.

A syncope is most commonly brought on by profuse discharges or evacuations, either of the blood or of the secreted humours.

In order to revive the patients from a state of syncope they ought to be laid along in a horizontal posture, in a current of cold air; the legs, thighs, and arms, are to be rubbed with hot flannels; very strong vinegar, or salt of hartshorn, or volatile spirits are to be held to the nostrils, and rubbed under them; or, being properly diluted, poured down the throat; cold water is to be sprinkled on the face and neck; and when by these means the patient shall be sufficiently revived, wine boiled up with some grateful aromatic may be given in proper quantity.

In the fainting consequent upon profuse uterine hæmorrhagies, it will be a safer practice to abstain from all stimulants; as life, in these cases, is preserved by the coagulation of the blood in the extremities of the open vessels; which might be prevented by the pouring in hot wine or using volatiles.

When a syncope is the consequence of the too violent operation of either an emetic or cathartic, the tinctura opii, mixed with spiced wine, is the most efficacious remedy; but the opiate must be given gradually, and in very small doses.

A syncope, or even asphyxia, wherein the patient shall lie for several hours, is frequent in hysteric constitutions; and, during

the fit requires fetid antispasmodics, such as the *Mistura fœtida* of St. George's hospital:

(No. 281.) R̄ Lactis assæ fœtidæ ʒiiiss.

Tinct. opii camph. ʒss. M.

Detur cochl. j. subinde.

Acrid stimulants are also requisite; and to prevent returns, nothing answers better than the Peruvian bark joined with chalybeates, or the *pilulæ ferri* of St. George's hospital:

(No. 282.) R̄ Calcis ferri præcipitatæ

Extract. Gentianæ sing. ʒj.

Ol. essential. anisi gutt. vj.

Fiant pilulæ xxiv. Dosis iij. vel iv. bis die.

Sp. III. *Syncope Anginosa.*

The *angina pectoris*, which, in conformity with the well-founded suggestions of Dr. Parry, of Bath, we place under the head of *SYNCOPE*, is a disease extremely dangerous in its nature, and, by Dr. Heberden's account, not very rare. It seizes those who are subject to it when they are walking, and particularly when they walk soon after eating; with a most disagreeable and painful sensation in the breast, which seems to threaten immediate destruction: but the moment they stand still, all the uneasiness vanishes. In all other respects, the patients, at the beginning of this disorder, are well, and have no shortness of breath; from which the common *angina* is totally different. After it has continued some months, the fits will not cease instantaneously on standing still; and it will come on not only when the patients are walking, but when they are lying down, and oblige them to rise up out of their beds every night, for many months together. In one or two very inveterate cases, it has been brought on by the motion of a horse, or carriage, and even by swallowing, coughing, going to stool, speaking, or by any disturbance of mind. The persons affected were all men, and almost all of whom were above fifty years of age, and most of them with short necks, and inclining to be fat. Something like it, however, was observed in one woman, who was paralytic, and one or two young men complained of it in a slight degree. Other practitioners have observed it in very young persons.

When a fit of this sort comes on by walking, its duration is very short, as it goes off almost immediately upon stopping. If it comes on in the night, it will last an hour or two. Dr. Heberden met with one in whom it once continued for several days; during all which time the patient seemed to be in imminent danger of death. Most of those attacked with the disease died suddenly:

though this rule was not without exceptions; and Dr. Heberden observed one who sunk under a lingering illness of a different nature.

The *os sterni* is usually pointed to as the seat of this malady; but it seems as if it was under the lower part of that bone, and at other times under the middle or upper part, but always inclining more to the left side; and in many cases there is joined with it a pain about the middle of the left arm, which appears to be seated in the biceps muscle.

The appearance of Dr. Heberden's paper in the Medical Transactions very soon raised the attention of the faculty, and produced other observations from physicians of eminence; namely, Dr. Fothergill; Dr. Wall, of Worcester; Dr. Haygarth, of Chester; and Dr. Percival, of Manchester. It also induced an unknown sufferer under the disease to write to Dr. Heberden a very sensible letter, describing his feelings in the most natural manner: which, unfortunately, in three weeks after the date of this anonymous epistle, terminated in a sudden death, as the writer himself had apprehended.

The youngest subject that Dr. Fothergill ever saw afflicted with this disorder was about thirty years of age; and this person was cured. The method that succeeded with him was a course of pills, composed of the mass of gum pill, soap, and native cinnabar; with a light chalybeate bitter: this was continued for some months; after which he went to Bath several successive seasons, and acquired his usual health: he was ordered to be very sparing in his diet; to keep the bowels open; and to use moderate exercise on horseback, but not to take long or fatiguing walks.

The only symptom in this patient that is mentioned, was a stricture about the chest, which came on if he was walking up hill, or a little faster than ordinary, or if he was riding a very brisk trot; for moderate exercise of any kind did not affect him; and this uneasy sensation always obliged him to stop, as he felt himself threatened with immediate death if he had been obliged to go forward.

It is the sharp constrictive pain across the chest, that (according to Dr. Fothergill's observation) particularly marks this singular disease; and which is apt to supervene upon a certain degree of muscular motion, or whatever agitates the nervous system.

In such cases as fell under the inspection of Dr. Fothergill, he very seldom met with one that was not attended with an irregular and intermitting pulse; not only during the exacerbations, but often when the patient was free from pain, and at rest: but Dr. Heberden observes, that the pulse is, at least sometimes, not disturbed; and mentions his having once had an opportunity of being convinced of this circumstance, by feeling the pulse during the paroxysm.

But no doubt these varieties, as well as many other little circumstances, will occur in this disease as they do in every other, on account of the diversity of the human frame; and if those which in general are found to predominate and give the distinguishing character be present, they will always authorise us in giving the name to the disease: thus when we find the constrictory pain across the chest, accompanied with a sense of strangling or suffocation; and still more if this pain should strike across the breast into one or both arms; we should not hesitate to pronounce the case an *angina pectoris*.

As to the nature of this disease, it appears to be purely *spasmodic*: and this opinion will readily present itself to any one who considers the sudden manner of its coming on and going off; the long intervals of perfect ease; the relief afforded by wine, and spirituous cordials; the influence which passionate affections of the mind have over it; the ease which comes from varying the posture of the head and shoulders, or from remaining quite motionless; the number of years for which it will continue, without otherwise disordering health; its bearing so well the motion of a horse or carriage, which circumstance often distinguishes spasmodic pains from those which arise from ulcers; and lastly, its coming on for the most part after a full meal, and in certain patients at night, just after the first sleep, at which time the incubus, convulsive asthma, and other ills, justly attributed to the disordered functions of the nerves, are peculiarly apt to return, or to be aggravated.

From all these circumstances taken together, there can be little doubt that this affection is of a spasmodic nature: but though it should be admitted, that the whole distress in these cases arises from spasm, it may not be so easy to ascertain the particular muscles which are thus affected.

The violent sense of strangling or choaking, which shews the circulation through the lungs to be interrupted during the height of the paroxysm; and the peculiar constrictive pain under the sternum, always inclining (according to Dr. Heberden's observation) to the left side; together with that most distressing and alarming sensation, which, if it were to increase or continue, threatens an immediate extinction of life, might authorise us to conclude that the heart itself is the muscle affected. The only objection to this idea, and, if it had been constantly observed, it would be insurmountable, is, that the pulse is not always interrupted during the paroxysms. The appearances in two of the dissections, favour the opinion that the spasm affects the heart; as in one subject the left ventricle (and, though it be not mentioned, we may presume the right one also) was found as empty of blood as if it had been washed; and in another, the substance of the heart appeared whitish, not unlike a ligament; as it should seem, in both cases

from the force of the spasm squeezing the blood out from the vessels and cavities.

If this hypothesis be allowed, we must conclude that the spasm can only take place in an inferior degree, as long as the patient continues to survive the paroxysm; since an affection of this sort, and in this part, of any considerable duration or violence, must inevitably prove fatal: and, accordingly, as far as could be traced, the persons who have been known to labour under this disease have in general died suddenly.

The dissections also shew, that whatever may be the true seat of the spasm, it is not necessary for the bringing of it on, that the heart, or its immediate appendages, should be in a morbid state; for in three out of the six that have as yet been made public, these parts were found in a sound state.

On opening the body of the poor gentleman who wrote the letter to Dr. Heberden, "upon the most careful examination, no manifest cause of his death could be discovered; the heart, in particular, with its vessels and valves, were all found in a natural condition."

In the case communicated by Dr. Percival to the publishers of the Edinburgh Medical Commentaries, "the heart and aorta descendens were found in a sound state." And in Dr. Haygarth's patient, "on opening the thorax, the lungs, pericardium, and heart, appeared perfectly sound." Not to mention Dr. Fothergill's patient (R. M.) in whose body the only morbid appearance about the heart was a small white spot near the apex. So that the cause, whatever its nature might have been, was at too great a distance, or of too subtle a nature, to come under the inspection of the anatomist. But there was a circumstance in two of the subjects that is worthy of remembrance; and which shews that the crisis of the blood, while they were living, must have been greatly injured, namely, its not coagulating, but remaining of a cream-like consistence, without any separation into serum and crassamentum.

From all that we have seen hitherto published, it does not appear that any considerable advances have been made towards the actual cure of this anomalous spasm.

The very judicious and attentive Dr. Heberden (to whom the public are highly indebted for first making the disorder known) confesses, that bleeding, vomits, and other evacuations, have not appeared to do any good; wine and cordials, taken at bed-time, will sometimes prevent or weaken the fits; but nothing does this so effectually as opiates: in short, the medicines usually called *nervous* or *cordial*, such as relieve and quiet convulsive motions, and invigorate the languishing principle of life, are what he recommends.

Dr. Wall mentions one patient, out of twelve or thirteen that

he had seen, who applied to him early in the disease, and was relieved considerably by the use of antimonial medicines joined with the foetid gums: he was still living at the time the doctor wrote his paper (November, 1772), and going about with tolerable ease. Two were carried off by other disorders; all the rest died suddenly.

Dr. Fothergill's directions are chiefly calculated with the view to prevent the disorder from gaining ground, and to alleviate present distress. Accordingly he enjoins such a kind of diet as may be most likely to prevent irritability: in particular, not to eat voraciously: to be particularly abstemious in respect to every thing heating; spices, spirits, wines, and all fermented liquors: to guard most scrupulously against passion, or any vehement emotions; and to make use of all the usual means of establishing and preserving general health: to mitigate excesses of irritability by anodynes; or pains, if they quicken the circulation: to disperse flatulencies when they distend the stomach, by moderate doses of carminatives; amongst which, perhaps, simple peppermint-water may be reckoned one of the safest. But since obesity is justly considered as a principal predisposing cause, he insists strongly on the necessity of preventing an increase of fat, by a vegetable diet, and using every other practicable method of augmenting the thinner secretions.

These were the only means that occurred to the English physicians of opposing this formidable disease: but Dr. Smyth of Ireland has, we are told, discovered that it may certainly be cured by issues, of which Dr. Macbride gives the following instances: when these are tried in any case, they should be placed inter scapulas, and kept open by horse-beans so as to produce a copious discharge.

"*A. B.* a tall well-made man; rather large than otherwise; of healthy parents, except that there had been a little gout in the family; temperate, being very attentive to the business of his trade (that of a watch-maker); led a life uncommonly sedentary; had, from his boyhood upwards, been remarkably subject to alarming inflammations of his throat, which seized him at least once in the course of the year; in all other respects well.

"In 1767 (then forty-eight years of age) he was taken, without any evident cause, with a sudden and very dispirited throbbing under the sternum. It soon afterwards increased, and returned upon him every third or fourth week, accompanied with great anxiety, very laborious breathing, choaking, a sensation of fulness and distension in the head, a bloated and flushed countenance, turgid and watery eyes, and a very irregular and unequal pulse. The paroxysm invaded, almost constantly, while he was sitting after dinner; now and then he was seized with it in the morning, when walking a little faster than usual; and was then obliged to

stop, and rest on any object at hand. Once or twice it came on in bed; but did not oblige him to sit up, as it was then attended with no great difficulty in breathing. In the afternoon fits, his greatest ease was from a supine posture; in which he used to continue motionless for some hours, until, quite spent and worn out with anguish, he dropped into a slumber. In the intervals between these attacks, which at length grew so frequent as to return every fourth or fifth day, he was, to appearance, in perfect health.

“ Thus matters continued for more than two years; and various anti-spasmodics were ineffectually tried for his relief. In 1796 there supervened a very sharp constrictory pain at the upper part of the sternum, stretching equally on each side, attended with the former symptoms of anxiety, dyspnoea, choaking, &c. and with an excruciating cramp, as he called it, that could be covered with a crown piece, in each of his arms, between the elbow and the wrist, exactly at the insertion of the pronator teres; the rest of the limb was quite free. The fits were sometimes brought on, and always exasperated, by any agitation of mind or body. He once attempted to ride on horseback during the paroxysm; but the experiment was near proving fatal to him. The difference of season or weather made no impression upon him. Still, in the intervals, his health was perfectly good, except that his eyes, which before his illness were remarkably strong and clear, were now grown extremely tender; and that his sight was much impaired. He had no flatulency of stomach, and his bowels were regular.

“ In this situation (February 22, 1770), he applied to me for assistance. I had seen, I believe, eight or ten of these frightful cases before. Two of the patients dropped dead suddenly. They were men between forty and fifty years of age, and of a make somewhat fleshy. The fate of the others I was not informed of; or, at least, cannot now recollect.

“ Having found the total inefficacy of blisters, and the whole class of nervous medicines, in the treatment of this anomalous spasm, I thought it right to attempt the correcting or draining off the irritating fluid, in the case now before us. To this purpose, I ordered a mixture of lime-water with a little of the compound juniper-water, and an alterative proportion of Huxham's antimonial wine: I put the patient on a plain, light, perspirable diet; and restrained him from all viscid, flatulent, and acrimonious articles. By pursuing this course, he was soon apparently mended; but after he had persisted regularly in it for at least two months, he kept for some time at a stand. I then ordered a large issue to be opened on each of his thighs. Only one was made. However, as soon as it began to discharge, his amendment manifestly increased. The frequency and severity of the fits abated considerably; and he continued improving gradually, until, at the end of eighteen months, he was restored to perfect health; which he has enjoyed, without

the least interruption, till now, except when he has been tempted (perhaps once in a twelvemonth) to transgress rules, by making a large meal on salted meat, or indulging himself in ale or rum-punch, each of which never failed to disorder him from the beginning of his illness: and even on these occasions, he has felt no more than the slightest motion of his former sufferings; inasmuch that he would despise the attack, if it did not appear to be of the same stock with his old complaint. No other cause has had the least ill effect on him.

“ Though rum was constantly hurtful, yet punch made with a maceration of black currants, in our vulgar corn-spirit, is a liquor that agrees remarkably well with him.

“ He never took any medicine after the issue began to discharge; and I have directed that it shall be kept open as long as he lives. The inflammations of his throat have disappeared for five years past; he has recovered the strength and clearness of his sight; and his health seems now to be entirely re-established.”

Dr. Machride, in a letter to Dr. Duncan, published in the Edinburgh Medical Commentaries, gives the following additional observations on this disease:

“ Within these few weeks I have, at the desire of Dr. Smyth, visited, three or four times, a very ingenious man, who keeps an academy in this city, of about thirty-four years of age, who applied to the doctor for his advice in January last.

“ I shall give you his symptoms as I had them from his own mouth, which appear to me to mark his case to be an angina pectoris, and as deplorable as any that I have read of. It was strongly distinguished by the exquisite constrictory pain of the sternum, extending to each of his arms as far as the insertion of the deltoid muscle, extreme anxiety, laborious breathing, strangling, and violent palpitation of the heart, with a most irregular pulse. The paroxysms were so frequent, that he scarcely ever escaped a day, for six or seven years, without one. They were usually excited by any agitation of mind or body, though slight. He had clear intervals of reason between the fits. The disorder seems hereditary in him, as he says his father was affected in the same manner some years previous to his death. He has a strong gouty taint, which never shewed itself in his limbs; and he has led a life of uncommon sedentariness, from intense application to mathematical studies, attention of mind, and passion, even from his boyish years.—These circumstances may, perhaps, account for his having been taken with this disease at so early an age as seventeen.

“ A large issue was immediately opened in each of his thighs. In a month afterwards he began to mend, and has gone on improving gradually. He can now run up stairs briskly, as I saw him do no later than yesterday, without hurt; can bear agitation of mind; and has no complaint, excepting a slight oppression of

the breast, under the sternum, which he feels sometimes in a morning, immediately after dressing himself, and which he thinks is brought on by the motion used in putting on his clothes; though for a complete week preceding the day on which I saw him last, he told me that he had been entirely free from all uneasiness, and was exulting that he had not had such an interval of ease for these last seven years.

“ Doctor Smyth also shewed me in his *adversaria*, the case of a gentleman who had been under his care in 1763, which he had forgotton when my book went to the press, and which he was reminded of the other day by a visit from his patient. It was a genuine angina pectoris, brought on by a very sedentary life, and great vexation of mind, clearly marked by the exquisite pain under the sternum, that extended acutely to the upper extremities, particularly along the left arm, together with the other symptoms of dyspnœa, anxiety, palpitation of the heart, &c. recited in the case above. The disorder went off in 1762, by large spontaneous discharges from the piles, but returned upon him severely in 1765. Issues in his thighs were then recommended to him, but not made. But, whether it was by the persuasion of some friend, or of his own accord, he went into a course of James’s powder, in small alterative doses, combined with a little castor and assafœtida. This he persisted in for about six weeks; in the mean while, he had large acrimonious gleetings from the scrotum, and a plentiful discharge of ichor from the anus. From this time he began to find his complaints grow less and less distressing, and he has now been totally free from them for six years past.”

We shall now state our inducements for giving this disease, under another name, a place in this part of our work. Dr. Parry, of Bath, is the author of a recent enquiry into the symptoms and causes of the syncope anginosa, commonly called angina pectoris, illustrated by dissections. He details a number of cases mentioned by other authors, and several which had fallen under his own notice, and that of his medical friends. From these data he gives the following enumeration of symptoms, which, as being essentially different from Dr. Heberden’s description, we think important:

“ The first symptom,” says Dr. Parry, “ is an uneasy sensation, which has been variously denominated a stricture, an anxiety, or a pain, extending generally from about the middle of the sternum across the left breast, and, in certain stages of the disorder, usually stretching into the left arm, a little above the elbow. In some few examples, the pain, stricture, or anxiety, is in a certain degree felt also across the right breast; and occasionally, though I believe rarely, has extended itself to one or both wrists.

“ The pain which I have described, occurs in paroxysms, and in the early periods of the disease is seldom produced without some apparent cause, such as walking, particularly up hill or up stairs, against the wind, or in a quick pace. On these occasions, the patient feels as if persisting in the exertion would produce a total suspension of the powers of life. He therefore stands still, or turns from the wind; on which the uneasy sensation soon vanishes.— We are told of one patient, who appears to have been, in other respects, a man of unusual firmness of mind, that he had the resolution to continue walking, and that he found the pain go off after it had affected him from five to ten minutes. This sensation in the breast often admits of temporary relief from the evacuation of wind by the mouth, and is altogether so free and distinct from any difficulty of breathing, that patients during the paroxysm make a deep inspiration with the utmost ease, and, in some instances, appear to be fond of sighing deeply, and of retaining their breath. In some cases, it is either conjoined with an unequal pulse, or affects persons who are subject to that symptom. In other cases, the pulse has been habitually so little changed, as to lead to the opinion that the heart in no respect primarily suffers. But whatever may be the state of the pulse as to regularity, I believe we shall always find it more or less feeble according to the violence of the paroxysm.

“ In the slighter cases, and in this first stage of the disorder, the fit seldom comes on but from the exertions which I have mentioned; and as it is probable that experience of their mischievous effects will cause these exertions to be as much as possible shunned, patients will continue many days, and sometimes weeks, without any attack of the disease. It has been observed, that paroxysms are most apt to occur from walking after a meal. In general, they are not excited by exercise on horseback, or in a carriage, or by some short and partial though strong exertions of the body itself, as in talking, laughing, coughing, or vomiting. They have been by some thought to occur most frequently in the extremes of hot and cold weather; but in many instances, there has been no perceptible difference in this respect.

“ As the disease advances, or in violent cases, the paroxysms sometimes come or are much increased, from certain passions of the mind; from slow walking; from riding on horseback, or in a carriage; from swallowing, speaking, coughing, or straining at stool; and sometimes also they attack the patient from about two to four o’clock in the morning, or while sitting or standing, without any previous exertion or obvious cause. The paroxysms now also become more violent, and do not so readily recede. During the fit, the pulse sinks in a greater degree; the face and extremities become pale, and bathed in a cold sweat, and for a

while, perhaps, the patient is deprived of the powers of sense and voluntary motion. At length, after the disease has recurred more or less frequently, sometimes during the space of many years, which admit of the patient's death from a variety of other causes, a more violent attack, of the nature which I have just described, puts a sudden period to his existence.

"These are the essential symptoms and more obvious causes of the unmixed angina pectoris.

"To this we may add, that the angina pectoris is in no stage attended with inflammatory fever, and that both its termination, and the appearances, on dissection, of those who die of it, are totally different from those related in the paper (to which I refer) in the London Medical Transactions.

"Equally dissimilar also to the disease which I have described are those three cases by Drs. Macbride and Smith of Dublin, in the fifth volume of the Edinburgh Medical Commentaries. They are evidently cases of palpitation of the heart, such as every physician of extensive practice must have often seen. In almost every violent case of this kind, there is a pain of the chest and elbows, as in the true angina pectoris. Nor is it difficult to understand how a rapid and irregular transmission of blood through the carotid and pulmonary arteries should produce that laborious respiration, turgescence and redness of the face and eyes, and head-ach, which are mentioned in the cases referred to. In the true angina pectoris, on the contrary, as we have seen above, there is neither dyspnoea nor palpitation of the heart.

"From the detail which I have given, it appears that there have been published not more than ten essays relative to the true angina pectoris, containing only as many detailed cases, and nine dissections of persons dying of that disorder.

"We cannot wonder that an experience so contracted should have left some symptoms of the disease unnoticed, and much uncertainty with regard to the distinctions and pathology. These deficiencies, I trust, will be in part supplied by the cases which I have related.

"In Mr. Bellamy, the angina pectoris appears to have been much complicated with another disorder, from which its symptoms are scarcely separable; but the two last cases are by far the most simple of any which have been detailed. They had medical assistance the soonest after the commencement of the paroxysm, and proved fatal after the smallest number of attacks. Mr. S**** may be almost said to have twice died; so that the circumstances accompanying the fatal termination were capable of being ascertained in the most exact manner.

"He had the common symptom of a pain affecting the sternum, and extending from thence across the lower part of the left mam-

ma, first into the inside of the left elbow, and afterwards of the right elbow. This pain was relieved by eructations. He had no dyspnœa, or palpitation of the heart. His pulse was weak and small: and had, at long intervals, an occasional imperfect stroke. These symptoms have already been mentioned by authors as generally occurring. The following circumstances I cannot anywhere find described:

"My patient's disorder was increased by bending the trunk of the body forwards; and it was probably from some relief which he experienced that he was found not only of straightening the spine, with the head somewhat reclined backwards, but also of stretching out his arms in the posture of yawning. He sighed frequently, and seemed to take great pleasure in resting on a full inspiration, which afforded a momentary relief to the uneasy sensation in his breast. Is it possible that this symptom, which is not remarked by any of the writers on the angina pectoris, was wanting in those cases which fell under their notice? I am disposed to think that it was not; because it has been very observable in several examples which I have known of patients labouring under this disease; and my learned friend, Dr. Falconer, with whom I have conversed on this subject, assures me, that it was particularly remarkable in two instances which were some years ago under his care, nearly at the same time, and which ended in sudden death.

"From the preceding observations, I think it evidently appears, that the angina pectoris is a mere case of syncope or fainting, differing from the common syncope only in being preceded by an unusual degree of anxiety or pain in the region of the heart, and in being readily excited, during a state of apparent health, by any general exertion of the muscles, more especially that of walking*.

* "On this principle," says Dr. Parry, whose idea we have adopted, "I would thus venture to insert this disease, in Dr. Cullen's Nosological System, under the trivial name of Syncope Anginosa.

"G. XLIV. SYNCOPE.

"Motus cordis imminutus, vel aliquamdiu quiescens.

"I. IDIOPATHICÆ.

"1. Syncope (*cardiaca*. Ex. *vitiis cordis, vel viscerum vicinorum*).

"a. *Anginosa*. A corporis motu inter ambulandum sæpe oriens; præeunte angustia, vel dolore, pectoris notabili, per manum sinistram præcipue perrecto; sine cordis palpitatione.

"Angina pectoris auctorum.

"b. *Palpitans*. Sine causâ manifestâ sæpe rediens, cum palpitatione cordis vehementi in intervallis.

"2. Syncope (*occasionalis*) ex affectione totius systematis manifestâ.

"II. SYMPTOMATICÆ, sive symptomata morborum, vel totius systematis, vel aliarum præter cor partium.

"Beside some other changes in Dr. Cullen's original classification, I have, in this new arrangement, inserted the syncope anginosa as a variety of the syncope cardiaca; and I have given the trivial name *palpitans* to that arising from the more common diseases of the heart, because the latter is usually attended with palpitation, which I have marked as wanting in the former."

Chap. IV. of Dr. Parry's work treats of the causes of syncope general.—Dissections.—Predisposing causes.—Exciting causes. Causes of *syncope anginosa*.—Diseased coronary arteries of the art, &c. in an interesting manner: but it is unnecessary for us to give any further extracts from this work, as our views are limited to the consideration of the *angina pectoris*.

GENUS XLV. DYSPEPSIA.

Depraved Digestion.

Dyspepsia, *Vog.* 277.
 Apepsia, *Vog.* 276.
 Diaphora, *Vog.* 278.
 Anorexia, *Sauv.* gen. 162. *Lin.* 116. *Sag.* gen. 286.
 Cardialgia, *Sauv.* gen. 202. *Lin.* 48. *Vog.* 157. *Sag.* gen. 160.
 Gastrodynia, *Sauv.* gen. 203. *Sag.* gen. 161.
 Soda, *Lin.* 47. *Vog.* 161.
 Nausea, *Sauv.* gen. 250. *Lin.* 182. *Vog.* 159. *Sag.* gen. 18.
 Vomitus, *Sauv.* gen. 251. *Lin.* 183. *Vog.* 214. *Sag.* gen. 186.
 Flatulentia, *Sauv.* gen. 272. *Lin.* 165. *Vog.* 127. *Sag.* 207.

The idiopathic species are,

Anorexia pituitosa, *Sauv.* sp. 2.
 Anorexia a saburra, *Sauv.* sp. 9.
 Anorexia exhaustorum, *Sauv.* sp. 8.
 Anorexia paralytica, *Sauv.* sp. 1.
 Nausea ex cacoehylia, *Sauv.* sp. 11.
 Vomitus pituitosus, *Sauv.* sp. 26.
 Vomitus ruminatio, *Sauv.* sp. 6.
 Vomitus a saburra, *Sauv.* sp. 2.
 Vomitus a crapula, *Sauv.* sp. 1.
 Vomitus lacteus, *Sauv.* sp. 3.
 Flatulentia infantilis, *Sauv.* sp. 5.
 Flatulentia acida, *Sauv.* sp. 1.
 Flatulentia nidorosa, *Sauv.* sp. 2.
 Cardialgia bradypecta, *Sauv.* sp. 9.
 Cardialgia a saburra, *Sauv.* sp. 2.
 Cardialgia lactantium, *Sauv.* sp. 11.
 Cardialgia flatulenta, *Sauv.* sp. 3.
 Cardialgia paralytica, *Sauv.* sp. 7.
 Gastrodynia saburralis, *Sauv.* sp. 1.
 Gastrodynia flatulenta, *Sauv.* sp. 2.

Gastrodynia periodynia, *Sauv.* sp. 7.

Gastrodynia astringens, *Sauv.* sp. 9.

Gastrodynia atterens, *Sauv.* sp. 10.

Gastrodynia a frigore, *Sauv.* sp. 18.

Besides these, there are a great number of symptomatic species.

1. *Description.*] It is by no means easy to define exactly the distemper called *dyspepsia*, when considered as an original disease, as there are very few maladies which some way or other do not shew themselves by an affection of the stomach; and much more difficult still must it be to enumerate all its symptoms. The most remarkable, however, and the most common, are the following: Want of appetite; distension of the stomach when no food has been taken for some time before; slight dejection of spirits; a gradual decay of the muscular strength; languor, and aversion from motion; the food, which is taken without appetite, is not well digested; the stomach and intestines are much distended with flatus, whence the patients are tormented with spasms, gripes, and sickness: frequently a limpid water, having an acid or putrid taste, is brought up; sometimes the food itself is thrown up by mouthfuls; and sometimes, though rarely, the same is swallowed again, after the manner of ruminating animals. While matters are in this situation, the heart sometimes palpitates, and the breath is quick, and drawn with difficulty; the head aches and is giddy; and sometimes both these symptoms are continual, and very violent, insomuch that the patient is not only tormented with pain, but staggers as if he was drunk. From the too great acescency or putrefaction of the aliment, a cardialgia or hearthurn comes on; and in this situation a spontaneous diarrhoea sometimes carries off the disease; but in other cases there is an obstinate costiveness, attended with colic-pains. Frequently the pulse is quick, sometimes slow, but always weak: the circulation is so languid, that the blood can scarce reach the extreme vessels, or at least stagnates in them, so that the face becomes livid, swelled, and has an unusual appearance: and at the same time that the circulation and nervous power are in this languid state, the perspiration becomes less copious; the skin becomes dry and corrugated; the natural heat, especially of the extremities, is much diminished; the tongue is white; and an universal laxity takes place, insomuch that the uvula and velum pendulum palati are sometimes enlarged to such a degree as to become extremely troublesome. The patient is either deprived of rest, or wakes suddenly out of his sleep, and is disturbed by frightful dreams; at the same time that the mind seems

to be affected as well as the body, and he becomes peevish, fretful, and incapable of paying attention to any thing as usual. At last hectic symptoms come on, and the whole frame becomes so irritable, that the slightest cause excites an universal tremor, and sometimes violent vomiting and diarrhoea. Sometimes the salivary glands are so relaxed, that a salivation comes on as if excited by mercury; the serum is poured out into the cavity of the abdomen and cellular substance of the whole body, and the patient becomes affected with anasarca or ascites.

2. *Causes, &c.*] The cause of dyspepsia may be any thing which debilitates the system in general, but in a particular manner affects the stomach. Such are opium taken in immoderate quantities, which hurts by its sedative and relaxing powers; spirituous liquors drunk to excess; tobacco, tea, coffee, or any warm relaxing liquor, taken in too great quantity; an indolent sedentary life, &c. &c. All these act chiefly upon people of a weak and delicate habit; for the robust and hardy seldom labour under a dyspepsia, or at most a very slight one.

3. *Prognosis.*] When a dyspepsia first occurs, it is frequently removed without great difficulty; when it is symptomatic, we must endeavour to cure the primary disease; and without this we cannot expect a complete removal of the affection; but when it frequently returns with symptoms of great debility, hectic fever, or dropsy, we have great reason to dread the event.

4. *Cure.*] A radical cure of dyspepsia is only to be expected by removing from the stomach and system that debility on which the disease depends. On this ground, the objects chiefly to be aimed at in the cure are, 1st, The avoiding whatever will tend to diminish the vigour of the stomach; 2d, The employing such remedies as have influence in increasing that vigour; and, in the third place, The obviating urgent symptoms, particularly those which tend to increase and support the affection. Of the avoiding causes which tend to diminish the vigour of the stomach, after what has already been said of the causes inducing the disease, it is unnecessary to make any further observations; and indeed every dyspeptic patient will be taught by experience what is to be done with this intention. The medicines chiefly employed with the view of increasing vigour are those of the tonic kind; but, previous to their use, it will be necessary to evacuate the contents of the alimentary canal by vomits or purgatives. If there be a tendency to putrescency, antiseptics must then be exhibited; but more frequently there is a prevailing acidity, which creates an intolerable heart-burn. To palliate this symptom, magnesia alba may be given; which is much preferable to the common testaceous powders, as being purgative while dissolved in an acid, when the others are rather astringent. In the third volume of the Medical Ob-

servations, we have an account of two cases of dyspepsia attended with a very uncommon degree of cardialgia, in which magnesia was so successful, that we can scarce doubt of its efficacy in slighter degrees of the disorder. They were communicated by Dr. Watson.

“ A woman, aged thirty-four, the mother of several children, was taken in the fourth month of her pregnancy with violent vomitings; which growing daily worse, notwithstanding the endeavours of her apothecary to restrain them, brought on, at the end of a month, such severe pains in the stomach, and spasms in her abdomen, as to occasion abortion. The vomitings were not lessened by this event, but grew worse, and frequently brought on general convulsions to such a degree, that she was many times supposed to be at the point of death.

“ Scarce any medicine staid with her; she brought up almost instantly whatever was given her as nourishment, either in a solid or liquid form. She was exceedingly pale, and very much emaciated; her flesh was cold to the touch; and, though her urine was little in quantity, it was perfectly limpid. She had a continual thirst, and was, in a considerable degree, costive. Her pulse was low and quick, and she was frequently tormented with the hiccough. The pain in her stomach was severe and constant; and whatever she brought up was sharp to such a degree as to make her mouth and throat very sore. These parts upon examination appeared high-coloured, and in many places excoriated; and the pain she felt in her stomach upon swallowing any liquor that had the least degree of acrimony, or was more than luke-warm, made it probable the stomach itself, in its internal surface, was affected in the same manner.

“ In this wretched state I was consulted; and must confess that I was much at a loss how to relieve a patient so debilitated, and whose stomach was in so diseased a state, that it seemed incapable of retaining any appropriated remedies long enough to correct the acrimony of the juices, and restore the secretions to a more mild and natural state. Anti-emetics of various kinds had been tried without effect, particularly saturated solutions of alkaline salt in juice of lemons. Stomachic medicines of the warm and aromatic kind she could not bear, on account of their poignancy; and, though nothing could so speedily correct the almost caustic acid of the gastric juice as solutions of alkaline salts, neither the fauces nor gullet could bear their acrimony.

“ My expectations of relieving this patient, small as they were, depended upon my being able to neutralize, and thereby lessen, the stimulus of the acid in the stomach. To accomplish this was not very easy, as no medicine in small doses could in any considerable degree correct so intense an acid; and, in the present situ-

ation, it was difficult to get any medicine to stay long enough to exert its effects. To discharge, however, what acrid matter might be already accumulated in the stomach, I directed that the patient should drink plentifully of small, warm, unsalted mutton-broth, and vomit with it so long that it should be discharged with no other taste than that of broth. This was complied with, and a large quantity drank. The pain in her stomach ceased upon this for more than two hours, and was after that time apparently coming on with the same violence as before. Upon which I ordered a drachm of magnesia to be given in two ounces of veal-broth. This kept down, and eased her; I therefore directed the same dose to be repeated as often as the pain returned, without any regard to the quantity that the whole might amount to, supposing that the pain continued severe. This was done; and in three days she took three ounces of magnesia, of which very few doses were vomited up, and she was purged considerably.

“ This medicine was continued in a somewhat less quantity for three days longer, in which she took two ounces more of magnesia; by this time the vomitings ceased, the convulsions left her, she had no pain in the stomach, and her mouth and fauces lost their intensely red colour and soreness; nor did even her eructations longer indicate any acidity.

“ Besides veal-broth she was allowed boiled rice, and now and then some rice-gruel with a small quantity of brandy; and after a few days more she could retain boiled chicken, and other light, solid, animal-food.

“ When her stomach was in this state, she took liberally of *decoct. cort. Peruvian.* with a small portion of French brandy; by which, and her nourishment, she recovered her strength surprisingly. To this medicine, as she was during the latter part of her illness considerably anasarcaous, were added some preparations of steel; and in about a month she perfectly recovered.

“ When this patient's stomach was relieved, the thirst, the general and partial spasms, and other complaints, which were merely symptomatic, soon ceased; and what remained of her cure was by no means difficult.

“ Since the above-recited case, I was consulted in another almost in every respect similar, except that the former began in pregnancy. The vomitings attended with acidity had continued more than a month; the patient's stomach rejected every kind of food and medicine; she was debilitated to a great degree, and universally anasarcaous.

“ Upon being sent for, I directed for her magnesia, much in the same manner as for the former patient; and in a very few days her vomitings ceased, her stomach became stronger, and in less than a fortnight the anasarca disappeared. But it was a con-

siderable time, as this person was more advanced in years than the former, before she recovered her strength, notwithstanding my best endeavours for that purpose. She at length, however, perfectly recovered."

But although acidity may be often successfully obviated in this manner, yet the best way of counteracting this symptom, as well as of obviating costiveness, flatulence, and a variety of others, is by restoring the tone of the stomach in particular, and indeed of the system in general. With this intention, recourse is had to a variety of tonics both from the mineral and vegetable kingdoms; particularly chalybeates in different forms, gentian, colombo, and the like; but of all the tonics which can be employed in this affection, none are attended with greater benefit than exercise and cold bathing; and the proper and prudent employment of these is no less effectual in removing the disease, than in preventing the return of it after it is once removed.

GENUS XLV. HYPOCHONDRIASIS.

HYPOCHONDRIAC AFFECTION.

Hypochondriasis, *Sauv.* gen. 220. *Lin.* 76. *Vog.* 218. *Sag.* 332, *Morbus hypochondriacus, Boerb.* 1098.

Malum hypochondriacum, *Hoffm.* III. 65. *Junk.* 36.

Although some of the nosological writers, particularly Sauvages, have considered this genus as consisting of different species, Dr. Cullen is of opinion, that there is only one idiopathic species, the *hypochondriasis melancholica*. He considers not only the hypochondriasis hysterica, phthisica, and asthmatica, but also the biliosa, sanguinea, and pituitosa, as being only symptomatic; but he views the true melancholic hypochondriasis as being a proper idiopathic disease, perfectly distinct from hysteria, with which it has often been confounded.

1. *Description.*] The symptoms of hypochondriasis are, stretching, pressing, griping and tormenting pains under the ribs, and chiefly in the left side; which sometimes are exasperated, and become pungent, burning, or lancinating. Frequently there is an inflation of the left hypochondrium, which sometimes becomes stationary, and by Hippocrates was taken for a symptom of an enlarged spleen. When these symptoms take place in the right hypochondrium, they are commonly attended with colic-pains, uncertain flying heats, especially in the head, with a transient redness of the face; and very frequently an œdematous swelling of the feet succeeds. To these are superadded almost all the affec-

tions of the stomach occurring in dyspepsia, besides a variety of other symptoms, such as palpitations, sleepless nights, and the like. But besides these, there occurs also a particular depression of spirits and apprehension of danger, which may be considered as one of the great characterising symptoms of the disease.

2. *Causes, &c.*] The general causes of the hypochondriac affection are said to be a plethora, and preternatural thickness of the blood; suppressions of customary evacuations; high and full diet, together with a sparing quantity of drink; an hereditary disposition; indolence; atony of the intestines; violent passions of the mind, &c.

3. *Prognosis.*] The hypochondriac affection, when left to itself, is more troublesome than dangerous; but, if improperly treated, it may bring on various diseases of a more fatal tendency, such as melancholy, bloody urine and nephritis, jaundice, vertigo, palsy, apoplexy, &c.

4. *Cure.*] This is to be attempted by such medicines as counteract occasional causes, and obviate urgent symptoms; which may be all comprehended under bleeding, gentle evacuants, chalybeates, the Peruvian bark, and exercise, especially riding on horseback, which in this disease is greatly preferable to any other.

To give the treatment more in detail, we shall avail ourselves of the following injunctions laid down by Dr. Smith, who, classing morbus hystericus, affectio hypochondriaca, &c. under the general head of "nervous complaints," speaks of the cure in the following way:

For the relief of nervous symptoms, there are two indications.

The first, to strengthen and confirm the system of the solids, and habit of body in general.

The second will consist in relieving and palliating the most urgent symptoms.

The regimen necessary to be pursued to answer the first indication, is such as is requisite in weakened and relaxed solids. Emetics of ipecacuanha, or cuprum vitriolatum, with the stomach purges (No. 144. and 146.) chalybeates (No. 151.), the bark (No. 150.), or (No. 194.), or given in the following way. Exercise of body, and the cold bath are also material helps to these remedies.

(No. 283.) R Sp. vitriol. æther. ʒij.

Tinct. amar. ʒvj.

M. capt. ʒj. vel ʒij. bis terque de die ex vin. rub, vel vino medicat.

(No. 284.) ℞ Pulv. cort. Peruv. ʒj.

Flor. Balaust.

Rad. Zedoariæ

Cort. Cinnam. aa ʒjss.

Vin. rub. auster. ℥j.

Digere et cola. Dos. ʒij. ter quaterve de die.

The author then proceeds to direct the following:

(No. 285.) ℞ Pill. Rufi. ʒj.

Pil. e gummi

Ferri vitriol. aa ʒjss.

Ol. junip. gtt. xx.

Syr. e cort. aurant. q. f. ut ft. pill. No. xij. e ʒj.
fumend. iv. mane et vesp.

The following bitter chalybeate draught, and warm boluses, are likewise well adapted to the remedy of these affections:

(No. 286.) ℞ Infus. amar. simp. ʒjss.

Vin. chalybeat. ʒss.

Tin. lavend. comp. ʒj.

M. ft. Haust. hor. xj. matut. et ʒta. P. M. fumendus.

(No. 287.) ℞ Extract. cinchonæ ʒss.

Colcoth. vitrioli

Limat. ferri recent. aa ʒss. ad gr. xv.

Pulv. aromatic. gr. vj. Syr. simp. q. f. ut ft. Bol.
man. et. vesp. fumendus.

(No. 288.) ℞ Conf. cort. aurant. ʒss.

Limatur. ferri ʒj.

Pulv. rad. Zedoar.

Pulv. aromatic. aa. gr. vj.

Syr. e cort. aurant. q. f. ut ft. Bolus, man. et vesp.
fumendus.

To answer the second intention, or palliate the symptoms, which all appear entirely of the spasmodic kind, the remedies proposed under the head of Convulsions and Spasms, will be the most advisable. Opium under some circumstances claims the first place; then the nervous, cephalic, or antispasmodic medicines; the foetid ferulaceous gums, assafoetida, galbanum, sagapenum, and myrrh; castor, musk, camphor, valerian, and the like.

(No. 289.) ℞ Confect. paulin. ʒss.

Castor. Mosch. aa. ʒss.

Syr. croci. q. f. ut ft. bol. 6ta quaque hor. vel pro
re nata fumend.

Or a grain, or in some cases two, of opium, may be given at a dose, and repeated as often as necessary. Clysters made of broth, or the like, with one or two drachms of the tinct. opii, will sometimes be highly useful. Blisters and sinapisms are often serviceable, more especially in such convulsive complaints as are not

attended with great pain; in which case likewise the fetids and antispasmodics may be used to advantage.

Affæœtida may be given from ʒß to ʒß.

Ammoniacum ʒj to ʒß.

Castor, ʒß. to ʒij.

Camphor, gr. v. to ʒj.

Musk, ʒß. to ʒß.

Oleum animale, gtt. vj. to xv.

Volatile salts, ʒss. to ʒj.

Salt and oil of amber, the same.

Valerian, ʒj. to ʒij.

By these a truce may be gained, and the patient often receives a sudden and immediate relief.

When the circumstances of the patient can afford it, a voyage to Spain, Portugal, or some of the warmer countries in Europe, will be of great service.

CHLOROSIS

GENUS XLVII. CHLOROSIS.

GREEN-SICKNESS.

Chlorosis, *Sauv.* gen. 309. *Lin.* 222. *Vog.* 305. *Sag.* gen. 135. *Boerb.* 1285. *Heffm.* iii. 311. *Junck.* 86.

Of this genus also Dr. Cullen thinks there is but one idiopathic species: viz. what some distinguish by the title of *chlorosis virginea*, others of *chlorosis amatoria*.

1. *Description.*] This disease usually attacks girls a little after the time of puberty, and first shews itself by symptoms of dyspepsia. But a distinguishing symptom is, that the appetite is entirely vitiated, and the patient will eat lime, chalk, ashes, salt, &c. very greedily, while at the same time there is not only a total inappetence to proper food, but it will even excite nausea and vomiting. In the beginning of the disease, the urine is pale, and afterwards turbid; the face becomes pale, and then assumes a greenish colour; sometimes it becomes livid or yellow: the eyes are sunk, and have a livid circle round them; the lips lose their fine red colour; the pulse is quick, weak, and low, though the heat is little short of a fever, but the veins are scarcely filled; the feet are frequently cold, swell at night, and the whole body seems covered with a soft swelling; the breathing is difficult: nor is the mind free from affection as well as the body; it becomes irritated by the slightest causes; sometimes the patients love solitude, and become sad and thoughtful. There is a retention of the menses throughout the whole course of the disorder; and at last all the

bad symptoms increasing, a leucophlegmasia, anasarca, atrophy, and death, succeed.

2. *Causes.*] The cause of chlorosis is thought to be an atony of the muscular fibres of the alimentary canal, especially of the stomach, joined with a similar atony of the perspiratory vessels over the whole surface of the body, and the whole depending on an atony of those small arteries which pour out the menstrual blood. This atony may be occasioned by the same causes which bring on dyspepsia and hypochondriasis, but very frequently arises from love and other passions of the mind.

3. *Prognosis.*] The chlorosis in all cases is tedious, though it does not generally prove fatal; but we can never promise a certain cure unless the menses make their appearance.

4. *Cure.*] The remedies here in general are the same as in the dyspepsia and hypochondriasis; only in the chlorosis stronger purgatives may be made use of; those which stimulate the rectum, especially aloetics, are useful by stimulating also the vessels of the uterus; and for this reason indulgence in venery has sometimes been said to produce a cure, particularly with love-sick maids. The cold bath is also extremely proper.

Dr. Smith observes, that these obstructions may sometimes be owing to a plethora, and then they are to be removed by bleeding and antiphlogistic remedies. But we find, that they much more frequently depend upon a cachectic habit, relaxed solids, and a weakened circulation; and in this case, the intentions of cure will consist in a directly opposite treatment: namely, in strengthening the solids, and promoting the circulation. In short, restore the body to a healthy state, and this as a natural excretion will succeed.

Cupereous emetics and gentle stomach purges, with medicines of the chalybeate and strengthening kinds, will most avail.—The following will often succeed extremely well:

(No. 290.) \mathcal{R} Pill. Rufi

Pill. e. gummi

Ferri vitriol.

Rubig. ferri ppt. aa $\bar{3}j$.

Ol. succin. rectificat. gtt. xx.

Syr. croci, q. s. ut. ft. pill. No. xii. e $\bar{3}j$. sumend.

iiij. vel. iv. mane et vesp.

(No. 291.) \mathcal{R} Tinct. ferri muriati $\bar{3}ij$.

Tinct. aloes $\bar{3}j$.

M. capiat. coch. minim. (tea-spoonful) ter quaterve de die ex quovis vehiculo.

The suppression, which is owing to a contraction of the uterine vessels, is to be relieved by relaxing the parts, and determining with more force the fluids, to dilate the extremities of the vessels.

The steams of warm water, the warm bath, and the like, may abate the contraction, and the warm emmenagogues may tend to force down the menses.

(No. 292.) ℞ Pulv. e. myrrh. comp. ℥j.

Flor. martial. gr. vj.

Extract. fabinæ gr. iiij.

Syr. croci. q. s. ut. ft. bol. ter die sumend.

(No. 293.) ℞ Elix. myrrh. comp.

Tinct. croci aa ℥j.

Sumend. ℥j. ad ℥ij. ter quaterve de die.

Calomel has sometimes been of use, to remove obstructions; and in many cases may be prescribed to advantage, especially in strong habits.

ORDER III. SPASMI.

SPASMI, *Sauv.* Clafs IV. *Vog.* Clafs V. *Sag.* Clafs VIII.

Motorii, *Lin.* Clafs VII.

Morbi spasmodici et convulsivi, *Hoffm.* III. 9.

Spasmi et convulsiones, *Junck.* 45, 54.

Epilepsia, *Boerb.* 1071. 1088.

GENUS XLVIII. The TETANUS.

Tetanus, *Sauv.* gen. 122. *Lin.* 127. *Vog.* 180. *Sag.* gen. 228.

Catochus, *Sauv.* gen. 123. *Lin.* 128. *Vog.* 183. *Sag.* gen. 229.

Opiethotonos, *Vog.* 181.

Episthotonos, *Vog.* 182.

On this formidable disease Dr. Lionel Chalmers has published a dissertation in the first volume of the Medical Observations, which being superior to any thing that has appeared in other medical writers on the subject, we shall here lay before the reader.

1. *Preliminary remarks.*] “Of all the diseases to which man is subject, none deserves more to be considered than the opisthotonos and tetanus, either with regard to the variety of painful symptoms which, almost without intermission, distract the sick, or the danger of the diseases themselves, from which few recover, in comparison of the number they attack. In both, the vital actions are very imperfectly performed, most of those which are called *natural* being as it were suspended at once; and so far is the patient from being able to execute any voluntary motion, that the whole machine undergoes the most excruciating distortions, from the

violent and unnatural contractions of the muscles. Happy it is for the inhabitants of the more temperate climates, that such diseases appear rarely among them; but in those countries which lie in the more southern and warmer latitudes, they are endemic, especially to negro slaves. In South Carolina, they shew themselves at all seasons, but not so often in the winter, more frequently in spring and autumn; and are most common in the summer, when people work abroad, and are alternately exposed to the scorching heat of the sun and heavy showers, which often happen suddenly, and greatly alter the temperature of the air. Others are seized with the opisthotonos after sleeping without doors, that they may enjoy the deceitful refreshment of the cool night-air when the weather is warm; one youth chose to cut off his hair and shave his head on a warm day in March, and went to bed without a cap, but the weather changed and became cold in the night, and he was found rigid with that disease next morning.

“ These diseases so rarely appear as originals in Europe, that a good history of them cannot be expected from the physicians who practise in that part of the world; nor has any thing like a full description been given of them by any ancient or modern author which I have seen. Hippocrates indeed takes notice of them in many places, and seems to regard them only as consequences of other diseases, or of wounds or ulcers of the nervous or tendinous parts, of which symptomatic kind of opisthotonos he gives three remarkable cases in *lib. V. f. VII. de Morb. vulg.* and repeats them in another place; but the few symptoms he recounts do not shew themselves with us. Galen, Cœlius, Aurelianus, Aretæus, &c. seem only to have copied Hippocrates, with the addition of some supposititious symptoms, which really do not appear; and the little that Bontius says of it is very faulty.

2. *Description.*] “ Among the numerous class of spasmodic diseases, there are three which distinguish themselves in a very particular manner, on which the names of *emprosthotonos*, *opisthotonos*, and *tetanus*, have been justly enough bestowed, as being expressive of the posture into which they throw and confine the patient. When therefore those muscles which bend the head, neck, and body, forwards, suffer such involuntary, violent, and continued contractions, as to fix the chin to the breast, incurvate the spine and body, and retain the sick in this painful and prone posture, the disease is called *emprosthotonos*. When the posterior muscles are similarly affected, so that the head is drawn towards the spine, and the spine itself is recurvated, it has then the name of *opisthotonos*; although, in fact, in this, all those muscles which act in deglutition, bend the head forwards, or turn it to either side, are equally contracted with those which raise the head and spine. The *tetanus* differs from, or rather is compounded of, both the others: for in this the patient is found rigid and inflexible,

being as it were braced between the opposite contractions of the anterior and posterior muscles; yet even here the head is much retracted.

"I never saw the *emprosthotonos*; and shall only speak of the *opisthotonos* and *tetanus*, the first being by far the most common, and in the last stage of which the tetanus frequently supervenes. And let it be observed, that the following description by no means respects such symptomatic contractions as often happen immediately before death, both in acute and chronic diseases; neither will it agree with that spurious *opisthotonos* or *tetanus* which appear sometimes in the first and second stages of quotidian intermittents in this country, however they may emulate the true diseases in some of their symptoms.

"STAD. I. The *opisthotonos*, contrary to what Bontius asserts, often comes on gradually and by slight approaches, the patient complaining rather of an uneasy stiffness in the back part of the neck and about the shoulders, than of any acute pain, with some degree of a general lassitude. These increase, and become so troublesome when he attempts to turn his head, or to bend it forward, as to oblige him to walk very erect; for he can by no means look downward, nor to either side, without turning his whole body. He cannot open his jaws without pain; and has some difficulty in swallowing, which discourages him from attempting to eat. At times he feels a sudden and painful traction under the *cartilago ensiformis*, which strikes through to the back, and instantly increases the rigidity about the neck and shoulders, draws the head backward a little, and shuts the jaws closer. The pain under the *sternum* returns more frequently and with greater violence; and the other contractions become so strong, that the head from this time continues much retracted, and he now refuses nourishment, as swallowing is attended with great pain, and occasions a return of the spasm; which extends along the spine to the lower extremities, so that they will no longer support him, and he is under the necessity of going to bed.

"In this manner passes over the first stage of the *opisthotonos*, which sometimes takes up three or four days; the patient, as well as those about him, mistaking the first appearances of it for that rheumatic complaint, which is commonly called a *crick in the neck*; but it sometimes forms itself much quicker, and invades the unfortunate person with the whole train of its mischievous symptoms in a few hours: in which case, the danger may truly be estimated from the violence of the first attack; for such generally die in twenty-four, thirty-six, or forty-eight hours, and very rarely survive the third day. But when it is less acute, few are lost after the ninth or eleventh; which number of days would not be possible for them to complete, unless the violence of the disease was in a good measure subdued; although I had one who recovered, after

having been subject to its tyrannical attacks daily for six weeks. In this stage the pulse is slow, and very hard, and the belly is bound: blood taken away seems not to be altered from the natural state, so that no indication can be deduced therefrom, and it only varies with regard to laxity or compaction, according to the age of the person and season of the year.

“STAD. II. The spasm under the sternum (which is the pathognomic symptom of this disease) becomes more violent, returning every ten or fifteen minutes; and never fails to be instantly succeeded by a stronger retraction of the head, with great rigidity and pain all round the neck, and along the spine to the lower extremities, which are suddenly put to the stretch. The countenance is very pale and contracted; the jaws are that moment snapped together, and cannot afterwards be opened so wide as to receive the end of one's little finger; an attempt to do which by way of experiment, surely hurries on the spasm. The mastoid, coraco-hyoid, and sterno-hyoid muscles, as well as all the others concerned in deglutition, and the deltoid and pectorals, are most violently contracted, so that the shoulders are strongly raised forward, and the arms are stretched out or drawn across the body; but the wrists and fingers seem not to be affected.

“Such is the condition of the patient in the time of the spasm, which ceases in a few seconds: after which the shoulders and arms recline, and the inferior extremities relax; yet not so entirely, but that such a degree of rigidity for the most part remains as will not permit them to bend when this is attempted by another person; for as to the sick himself, he cannot at all move them. The muscles on the sides and fore-part of the neck continue still contracted, although not so strongly; but their action is overcome by the number and strength of the posterior ones; so that the retraction of the head constantly remains. He breathes quick for some minutes, as if he had been excessively exercised; and the pulse is small, fluttering, and irregular, but both become more calm and slow. The face is sometimes pale in the intervals, but oftener flushed; and the whole countenance expresses strong appearances of the most melancholy distress, as well because of the dread he has of a return of the spasm, which he is sure will soon happen, as from the pain he suffers by the present contractions, and the more general and severe ones which he has so lately sustained. The tongue is stiff and torpid; but, so far as it can be seen, is not foul. The belly is always bound, and cannot easily be loosened. In drinking, the liquid passes with great difficulty to the stomach, even in the smallest quantity; and if the spasm should seize him at the time, which an attempt to swallow for the most part occasions, the liquor returns through the nose with some force. The patient desires to lie still as much as possible; and avoid drinking, speaking, or being moved, either of which are apt to occasion a return of the spasm.

“STAD. III. In this last stage, the patient is reduced to the most calamitous and distressful circumstances: for he is on a continual rack, according to the most literal meaning of that word; the spasm returning oftener than once in a minute, is much more violent, and holds him longer, so that he has scarcely any remission. The anterior muscles of the whole body now suffer equal contractions with the posterior; but the last overcome the force of the others, so that the spine is strongly recurvated, and forms a hollow arch with the bed, and he rests on the back part of the head and the heels. The belly is flat and is drawn inward; and the muscles are so rigidly contracted, that they will not give way to pressure, and do not seem in the least to yield to the descent of the diaphragm in inspiration; the several muscles about the neck, sides, and abdomen, being plainly distinguishable from each other. Although the lower extremities are always rigid in this state, yet are they so suddenly and violently distended in the time of the spasms, that were it not for the standers-by, he would be projected feet foremost off the bed; while others again are as it were pushed upward with such a spring, that the head is struck with great force against whatever happens to be in the way, the thighs and legs being in this case no less rigid than the other parts. The tongue is spasmodically darted out, and is often miserably torn, as the teeth are that moment snapped together; so that it is necessary to prevent this by keeping the handle of a spoon, wrapped round with soft rags, between the teeth, when this can be done. At the time that the tongue is thus thrust out, the muscular flesh which lies between the arch of the lower jaw and the head of the trachea, seems to be drawn upwards within the throat. The countenance is very much contracted, and he is in a foam of sweat, the heat being very great; and the pulse between the spasms is exceeding quick, small, and irregular, although the heart throbs so strongly, that its motions may be plainly seen, and a palpitating subsultory kind of undulation may not only be felt, but perceived all over the epigastric region. The eyes are watery and languid, and a pale or bloody froth bubbles out from between the lips. The jaws are, for the most part, locked fast, so that it is impossible to give drink or nourishment, nor could he swallow if any thing was put into his mouth. In this state they are commonly delirious: and as they cannot subsist many hours under so great a suspension of the vital and natural functions, a mortal anxiety ensues and releases them; oftener a continued and severe spasm finishes the tragedy, when it was before almost at an end: but most frequently a general convulsion puts a period to their sufferings; and whichever way this happens, they for the most part relax just before death.

“In the *tetanus*, the general symptoms are nearly the same as in the *opisthotonos*, except that from the first attack, the lateral, abdominal, and other anterior muscles, are equally contracted with the posterior ones; and the arms become rigid as well as the lower

extremities. The abdomen is always flat and rigid as in the last stage of the opisthotonos, and its contents seem to be thrust up into the thorax, which at the same time appears to be much dilated. There are here also some intervals between the spasms, in the time of which the cheeks are drawn towards the ears, so that all the teeth may be seen as in the spasmus cynichus. Deglutition is more free in this than in the other disease; yet so far is the sick from being equally balanced between the contractions of the opposite muscles, that the head is retracted and the spine is recurvated, although not quite so much as in the opisthotonos. And the spasm, which commences under the sternum, is likewise common to the tetanus, which terminates as the other, and on the same fatal days. But whoever recovers from either, labours long under a general atonia; and they cannot for some months raise themselves from a supine or recumbent posture without pain, nor without help for some time."

3. *Prognosis and Cure.*] There has never been any thing like a crisis observed in these frightful cases, or favourable termination from the mere efforts of nature; and therefore all the physician's dependence must be upon art. As in cases of tetanic affections, the disease often arises from some particular irritation, the removal of this must necessarily be an important object in the cure: but where it cannot be removed, benefit may often be obtained by the prevention of its influence being communicated to the brain. When, however, that influence is communicated to the brain, a cure is to be expected only by diminishing and obviating it. This is principally brought about by the use either of those means which have a general tendency to diminish action, or of those which induce a different state of action. On these grounds the operation of those remedies which are employed with greatest success in this affection may, we apprehend, be explained. Fortunately it has been found, that opium is capable of giving some relief, if administered in proper time, and if the disease happens not to be in the most violent degree: the warm bath must also be brought in aid; and the patients should lie horizontally in the bath, and while in it have the whole body extremely well rubbed: when taken out, they are not to be dried, but immediately put to bed wrapt in the softest blankets: and while they remain there, the belly ought either to be suped, or two or three bladders filled with warm water kept constantly lying on it. The bowels at the same time must, if possible, be kept open, by solutions of manna and *sal polychrest*, or some other purging salt, mixed with *oleum ricini*; or if that should not be at hand, with oil of sweet almonds and a little tincture of senna. The opiacs are to be given in large and frequently repeated doses; such as a grain of opium, or twenty drops of the tincture, every second or third hour; and it will be safest not to trust to the therapeutic tincture, which is kept ready prepared in the shops, but order

the necessary dose of solid opium, and either give it in pills or dissolve it in some convenient liquid. If swallowing should be difficult, or the jaws closed up, the opium must be given in clysters; for during the whole course of the disease it will be of service to order emollient clysters to be injected from time to time, since these will answer not only as a relaxing fomentation, but also contribute to keep the intestinal canal perfectly free.

When the patients recover, they continue for a long time very relaxed and weak; and no wonder, since it is the nature of all spasmodic affections to leave behind them extreme weakness and relaxation of the muscular fibres. In order to perfect the recovery, a course of the Peruvian bark and the Peruvian balsam is to be tried; and the spine may be rubbed with spirituous liniments, or with a mixture of rum and Barbadoes tar: but these and all other stimulating things, either internally or externally, during the violence of the spasms, must, in the opinion of some practitioners, be omitted, since all of them as well as blisters have been alleged to exasperate the disease:

This, in general, is the plan of treatment recommended by Dr. Chalmers.

The same dreadful disorders frequently attack young children in the warm climates. Dr. Hillary tells us, that they will there arise from the same causes which usually produce convulsions with children in Britain, *viz.* from a retention of the meconium or first excrement after birth; or from a glutinous matter which is too often found in the intestines of young children soon after the other is discharged; or from a cheesy matter from the coagulation of the milk by an acid in the stomach; or from hard excrements; or from something taken in by the mouth which is over acrid, or too hard to digest, which irritates their tender bowels, and so produces startings and convulsive spasms, with all the other symptoms which precede and accompany convulsions in young children in Britain. And this shews how much more readily and easily the nerves are affected and irritated in that warm climate, and the *tetanus* produced from a much less cause there, than it is in Britain, where it is but seldom seen. But these causes not being timely removed, their acrimony is increased, partly by the heat of the climate, and partly by the fever which they produce, which still renders them more acrid, and so increases the irritation of their bowels, that it first brings on startings, then convulsive spasms, and regular convulsion fits; which, if not soon removed, usually end in a perfect *tetanus* there, and the disease is but seldom cured in such young children when it arrives at that state; for when the child lies in that miserable, rigid, immoveable condition, upon moving its hands or feet in the most gentle manner, or softly touching any part of its body, or giving it the least motion, even feeling its pulse in the most gentle tender manner, or the least

noise, or even touching its clothes, will bring on the convulsive spasms, and cause it to be strongly convulsed backwards, or drawn into a rigid straight line, strongly extended and immoveable like a statue, and will so remain immoveable out of either of those postures for a considerable time, a minute or two; and when the disease is arrived at this degree, Dr. Hillary thinks it is never cured. But if the physician be called in time, before the *tetanus* has come on (which is too seldom the case there), though he finds strong convulsive spasms have seized the child, or that it has had a convulsive fit or two, it may most commonly be relieved, the coming of the *tetanus* be prevented, and the life of the babe saved, as Dr. Hillary has more than once seen, by removing and carrying off the irritating cause which stimulates their tender bowels, by such gentle evacuations as are suitable to their age; and then quieting and composing the irritation of their nerves with proper anodynes, and correcting the remaining acrimony of the nutritious juices in the *primæ viæ*.

To answer these intentions, the following method, with variations, *pro re nata et pro ratione ætatis*, as the cause is different, has been found to answer the desired effect the best.

(No 294.) R̄ Seri lactis ℥ij.

Sapon. venet. ℥j.

Mannæ ℥ij. vel iij.

Ol. amygd. ℥ss.

Ol. fœniculi dul. gut. ij.

Bals. Peruv. gut. v.

Misce, ft. enema quamprimum injiciendum.

And if the symptoms of the approaching *tetanus* will permit, he directs something of the following nature to assist the operation of the clyster, and to carry off the acrimony the sooner.

(No 295.) R̄ Aq. sem. fœniculi ℥iij.

Magnes. albæ ℥ss.

Syr. e cichor. cum rheo.

Syr. rosar. solut. ana. ℥iij. Misce.

(No 296.) Vel, R̄ Aq. sem. fœniculi ℥iij.

Sapon. amygdal. ℥ss.

Magnes. albæ ℥iss.

Syr. e cichor. cum rheo.

Mannæ opt. ana ℥ij.

Ol. amygd. dul. ℥iij. Misce.

Exhibe cochl. parv. vel duo, pro ratione ætatis, omni semihora, vel omni hora, donec respond. alvus.

Two or three stools being obtained by these, the following is exhibited in order to abate the convulsive twitchings, and prevent the *tetanus* from coming on;

(No. 297.) R̄ Aq. sem. fœniculi ℥iij.

Magnes. albæ. ℥ss.

Ocul. cancr. præp. ʒj.
 Moschi orient. gr. iij.
 Spir. vol. C. C. gut xv.
 Syr. e mecon. ʒss. Misce.

Exhibe cochl. parv. (*a child's spoonful*) ter quaterve de die,
 vel sæpius, urgent. convuls. vel spasm.

But if the symptoms shew that the *tetanus* is more immediately coming on, so that we have no time to wait till the operation of the clyster and opening laxative be over, something of the following nature must be immediately given; or the *tetanus* will come on, and most probably prove fatal to such tender babes.

(No. 298.) R Aq. fæniculi ʒvj.
 Moschi orient. gr. j.
 Tinct. opii. gut. iij.
 Syr. e mecon. ʒij.

Misce pro duobus dos. de quibus exhibe unam quamprimum, et alteram si convuls. spasm. redeunt.

This, Dr. Hihary observes, may be thought a bold attempt, to give *tinct. opii* to such a tender young infant: but it is to be considered that the little patient will certainly die if the *tetanus* seize it, and that it will come on if this do not prevent it; and he has known a bold ignorant old midwife give four or five drops of that tincture to a very young infant without any prejudice more than its dosing three or four hours, though not in this case, but in one much less violent.

The clyster may be given at the same time, and the opening laxative not long after it: though it may retard the operation of that some time, yet it operates soon after, and gives relief; after which the other medicines, and fomenting the body and anointing it as before, may be used, if the physician finds it necessary; also a little of the laxative mixture may be given once or twice a-day, if the above julep does not answer that intention of keeping the child's body open for a few days afterwards, which in this case is generally found necessary to be observed.

These methods and medicines may be varied according to circumstances. For neither the same method nor the same medicines will answer in all cases, though the disease be the same; but they must be changed as the causes differ, or the constitution of the sick, or the time of the disease, or as some other circumstances may require: which is a thing of great importance, not only in this, but in the cure of most other diseases; wherefore it is mentioned here, chiefly to caution the practitioners in the West Indies.

When proper medicines are thus timely and judiciously given in this case, they seldom fail to carry off the irritating cause, quiet and ease the nerves, remove the convulsions and spasms, and consequently prevent the *tetanus* from coming on, and the death of the patient. But if calling in the physician be deferred till the

tetanus has already strongly seized the child, as is too often the case here, neither warm bathing, fomenting, nor any other methods or medicines whatever, will remove it or its causes, nor save the life of the patient.

Dr. Chalmers gives an account of his having cured one child seized with a *tetanus*, by purging with an infusion of rhubarb; to which a few grains of musk, and a little *lixivium kali* were added, together with the warm bath, and the frequent injection of clysters made thus:

(No. 299.) ℞ Flor. chamæm. manip. j.

Aquæ bullien. lib. j.

Infunde per horam dimid. & adde,

Sapon. venet. ʒij fiat enema.

It is much to be regretted, however, that in those cases where the assistance of the medical art is most wanted, it most generally fails. We have been assured by a gentleman who practised for some time in the warm parts of America, that out of thirty cases of the tetanus he had seen, not one of the patients recovered, though he had given opium to the quantity of twenty grains thrice a-day; and others, he was assured, had taken thirty grains thrice a-day. In the beginning of the disease, the medicine produced a violent head-ach; but towards the end, it had no manner of effect whatever. In two patients, the disease came on from the slightest causes imaginable. The one accidentally fell in attempting to avoid a loaded cart, and put the heel of his shoe upon one of his thumbs in rising; the other, in avoiding the same cart, slightly ruffled the skin of his nose. Both were seized with the tetanus; and both died, notwithstanding all possible assistance was given. The former had his thumb amputated without effect.

In the Edinburgh Physical and Literary Essays, vol. III. Dr. Donald Monro describes a new method of cure, communicated to him by a gentleman who was formerly a practitioner in Jamaica. While this gentleman practised in that island, he had under his care a great number of cases of tetanus attended with the locked-jaw. At first, he used to give very freely of opium, musk, and other medicines of this class; to bleed, and make other evacuations; while he used baths, fomentations, embrocations, and other external applications, but all without the least success; and, as he had lost a great many patients without being so lucky as to make one cure, he began to believe that this disorder always proved fatal, and was not to be cured by medicine, notwithstanding what some practitioners had alleged. However, having received an unexpected hint concerning the good effects of the mercurial ointment in such cases, he resolved to try it; and ordered the first patient that offered to be put into a warm room, and to be rubbed two or three times a-day with the ointment, till such time as a salivation was raised; when he with pleasure observed, that, as soon as the

mercury began to affect the mouth, the convulsions of the muscles of the jaws, as well as all the other spasms and convulsions, ceased, and the patient was freed of all his complaints. After this, he treated every case of this kind which came under his care in the same manner, and cured twelve, which were all who applied to him for advice so early in the disorder that there was time to bring the mercury to the mouth before the fatal period was expected. A few died, in whom the disease was so far advanced before he saw them, that there was not time to raise it to salivation. None of the cases which were under this gentleman's care in the West Indies were the consequences of wounds, or capital operations; nor has he had any opportunity of trying it since, in those cases of the locked-jaw which sometimes follows capital operations, owing to his having given over practice: but he thinks, that, from the similarity of the complaint, there is no doubt that the mercurial frictions would be equally efficacious in such cases, as when the disorder comes from catching cold, or other such causes.

In the second volume of the Medical Transactions, we have an account of a cure performed by Dr. William Carter, of Canterbury, by means very different from any of those above related. — On the 17th of May, 1767, the doctor was called to a strong healthy man, in the twenty-first year of his age, and who had been confined to his bed for three weeks. What gave rise to his present disorder was a wound on the inner angle of his right leg, which he had received six weeks before from a joiner's chisel. At that time his mouth was so far closed, as to admit only the most liquid nourishment, which he constantly sucked through his teeth: but his legs and jaw, and the whole length of the spina dorsa, were quite immoveable, being as stiff and rigid as those of a person long dead; his head was drawn backward, and he was frequently strongly convulsed. The motion, indeed, of both his arms was but a little impaired. From the beginning to the end, his sight, hearing, and memory, continued perfect; his appetite was good; and his senses, in the day-time, entire, though sometimes wandering in the night. As to his pulse, that was regular; if it deviated at all from the pulse of a person in health, it was rather slow than quick, and somewhat fuller than natural. Such was the situation of his patient; a detail of which had been given before the doctor set out on his journey, which he undertook with a determined resolution to make use of the method recommended by Dr. Sylvester, in the first volume of Medical Observations and Enquiries, published in the year 1757 (and which has been related from Dr. Chalmers and Dr. Hillary). But on his arrival at the house, he found great quantities of opium dissolved had been already given him; and that, for the five last days, he had taken no less than twenty-eight grains of that medicine, with fifty grains of musk, in the space of twenty-

four hours, without any sensible effect, except the bringing on a confused sleep, out of which he frequently awoke in great hurries attended with a violent pain in the head, which almost deprived him of his senses. The doctor was afraid to extend the dose; and soon determined to take some other method, though at a loss what method to pursue, as, during a course of almost thirty years' practice, nothing of the same kind had ever fallen under his cognizance before. Reflecting, however, that this disorder had always been deemed of the spasmodic kind, and that the good effects produced by the opium must probably be owing to the relaxing and resolving faculty of that medicine, he directed a blister to be applied between the shoulders, the whole length of the spine; the jaw to be anointed with the *oleum lateritium*; and the following purge to be given him:

(No. 300.) ℞ Tinct. sacrae ℥ij.

Tinct. jallap. ℥j.

Syr. e spina cerv. ℥ss. m. fiat Haust. purg.

This was repeated three several times afterwards, at the distance of three or four days between each dose. On the intermediate days, he was ordered the *oleum succini*, the fetid gum, and the *oleum amygdalinum*. Of the first he took thirty drops, of the gum twenty grains, and of the last four ounces, in twenty-four hours. By these means, and these only, the convulsions soon ceased; and he grew daily better and better, till at the end of a fortnight he was able to walk about his room, and in less than three weeks became in all respects well, some small weakness in the parts only excepted. The jaw was relieved first, after that the spine, and last of all the legs. A pain and uneasiness in the places affected, neither of which he had felt before, were the forerunners of his approaching amendment.

From all this it seems reasonable to conclude, either that there is no certain remedy for tetanus in all cases, or that the medicines which prove effectual in one constitution will fail in another. Thus, it is possible, that in cases where opium proves ineffectual, mercury may be a remedy; and, on the contrary, where mercury fails, opium may be effectual; and even where both are ineffectual, the antispasmodics recommended by Dr. Carter may be of use. It is therefore necessary for physicians to be extremely careful to observe the effects of the first doses of their remedies: for if the symptoms shew not the least appearance of remission after a large dose of opium, it is improbable that it can be cured by a repetition of the medicine; and as no time can be lost with safety, it will then be proper to apply mercurial ointment, or whatever else may be judged proper.—In the Edinburgh Medical Commentaries we have an account of the cold bath being used as a remedy, by Dr. Thomas Cochrane, at that time physician at Nevis, now at Edinburgh. The patient was an

East-Indian boy, who had been gored by a cow, and afterwards exposed to a rainy damp air for some hours. Dr. Cochrane ascribes his cure to the cold bath, which was applied by dashing cold water upon his body. But as the patient at the same time took laudanum, at first in the quantity of 200 drops a-day, and afterwards in still large doses; and had besides his throat and shoulders anointed with warm oil of turpentine, was bled, and had emollient clysters and laxatives; it is by no means easy to say what were the cold bath had in his cure. Dr. Cochrane, however, says he has heard of some cases being treated successfully by cold water and the Peruvian bark in St. Eustatia and St. Kitt's, and in another letter mentions his having used the cold bath in other cases of tetanus with success. But since Dr. Cochrane's publication, a more full and satisfactory account of the benefit of this practice has been communicated in a paper published by Dr. Wright, in the sixth volume of the London Medical Observations. Dr. Wright gives a particular account of six cases, in which the best effects were obtained from dashing cold water upon the patient; and he observes, that since he first used this method of cure, he never failed in one instance to effect a recovery, and that in a shorter time than by any other method hitherto proposed. This practice has on some occasions been adopted by practitioners in Britain, although here the disease is a much less frequent occurrence. It has particularly been employed with success by Dr. Currie of Liverpool; and we hope that still more extensive practice will confirm the benefit to be derived from it, although not in every instance, yet in many cases of this affection.

Very lately, a different mode of cure in this affection has been recommended by Dr. Rush, professor of medicine in Philadelphia, in a paper entitled Observations on the Cause and Cure of Tetanus, published in the second volume of the Transactions of the American Philosophical Society. Dr. Rush, viewing tetanus as a disease occasioned by relaxation, thinks the medicines indicated to cure it are such only as are calculated to remove this relaxation, and to restore tone to the system. On this ground he recommends the liberal use of wine and the Peruvian bark; which, he tells us, he has employed with success in actual practice; and this is, in some measure, supported by the case of a man in the Liverpool infirmary, who, a few years ago, was absolutely cured of a *locked jaw*, by the long-continued and copious use of port wine. When the disease arises from a wound of any particular place, Dr. Rush recommends stimulants to the part affected; such as dilatation of the wound, and filling it with oil of turpentine. How far this practice will be confirmed by more extensive experience, we cannot take upon us to determine. We may only observe, that a very contrary practice has been recommended as

highly successful by some practitioners in Spain, where the tetanic affections are a very frequent occurrence in consequence of slight accidents. There, gentle emollients are strongly recommended, particularly immersing the wounded part in tepid oil for the space of an hour or so at a time, and repeating this application at short intervals. By this mode many cases, after very alarming appearances had taken place, are said to have been completely and speedily removed. While the practice is very simple, it appears at the same time in many respects very rational, and may perhaps be considered as well deserving a trial in the first instance.

GENUS XLIX. TRISMUS.

The LOCKED JAW.

Trismus, *Sauv.* gen. 117. *Lin.* 124. *Sag.* gen. 223.
Capistrum, *Vog.* 208.

Sp. I. TRISMUS NASCENTIUM.

Locked Jaw in children under two months old.

Trismus nascentium, *Sauv.* sp. 1. *Heister* Comp. Med. Pract. cap. xv. § 10. *Cleghorn* on the Diseases of Minorca, Introd. p. 33. *Hofer*, in Act. Helvet. tom. i. p. 65.

This disease is so closely connected with the tetanus, that it ought rather to be accounted a symptom of the tetanus than a primary disease. We have accordingly discussed it under TETANUS.

Sp. II. The TRISMUS from Wounds or Cold.

Trismus traumaticus, *Sauv.* sp. 2. *Lond. Med. Obs.* Vol. I. art. 1. 7. Vol. II. 34. Vol. III. 31. Vol. IV. 7.

Angina spasmodica, *Sauv.* sp. 18. *Zwingeri* Act. Helvet. Tom. III. p. 319.

Convulsio a nervi punctura, *Sauv.* sp. 2.

Trismus catarrhalis, *Sauv.* sp. 15. *Hillary's* Barbadoes, 221. *Lond. Med. Obs.* Vol. IV. 7.

The internal remedies proper in all cases of the locked jaw, from whatever cause it may proceed, have been already mentioned under TETANUS: the external treatment of wounded parts

which may give occasion to it belongs to *Surgery*. But of this we have offered some observations under the head of Tetanus: and, indeed, Trismus may be considered as being merely incipient tetanus, or rather a slight degree of that disease.

GENUS L. CONVULSIO.

CONVULSIONS.

Convulsio, *Sauv.* gen. 128. *Lin.* 142. *Vog.* 191. *Sag.* gen. 235.
Convulsio universalis, *Sauv.* sp. 11.

Hieranosos, *Lin.* 144. *Vog.* 190.
Convulsio habitualis, *Sauv.* sp. 12.
Convulsio intermittens, *Sauv.* sp. 16.
Convulsio hemitotonos, *Sauv.* sp. 15.
Convulsio abdominis, *Sauv.* sp. 10.
Convulsio ab inanitione, *Sauv.* sp. 1.
Convulsio ab onanismo, *Sauv.* sp. 13.
Scelotyrbæ festinans, *Sauv.* sp. 2.

1. *Description.*] When convulsions attack only particular parts of the body, they are generally attended with some kind of paralysis at the same time, by which means the affected parts are alternately convulsed and relaxed; a permanent convulsion, or unnatural contraction of particular muscles, is called a *spasm* or *ramp*. These partial convulsions may attack almost any part of the body; and are not unfrequently symptomatic, in fevers, the cholera morbus, &c. The involuntary startings of the tendons, the twitching of the bed-clothes, &c. in acute diseases, &c. are all of them convulsive disorders. Convulsions, even when most generally extended, differ from epilepsy in not being attended with any mental affection or abolition of sense, and not followed by the same torpid state.

2. *Causes.*] Convulsions, not only of particular parts, but also over the whole body, often take place from causes not very evident. Sometimes they seem to depend on a certain delicacy or irritability of the nervous system, which is framed with such exquisite sensibility as to be strongly affected by the slightest causes. Delicate women are often subject to hysterical convulsions, and also hypochondriac people. Convulsions, however, often take their rise from wounds, irritations of the stomach and intestines by worms, poisons, violent cathartics and emetics, &c.; and very often they are symptomatic, as in dentition, the small-pox, and many kinds of fevers.

3. *Prognosis.*] Except in some few cases, convulsive disorders

are always to be dreaded ; but less in young people than in such as are advanced in life. Those which attack girls under the age of puberty, will generally cease on the appearance of the menses ; and boys have likewise a chance of being relieved as they advance in life : but in grown-up people, unless the cause be very evident, a cure is hardly to be expected, especially after the disease has been of long continuance.

4. *Cure.*] The treatment is very much the same with that of epilepsy, afterwards to be considered : but a recovery is most frequently obtained by the removal of the existing cause.

Where infants are attacked with convulsions, and their lives depend on an immediate remedy, their nurses should be instructed to immerse them in a vessel of warm water, and keep them in that situation till medical aid is procured.

GENUS LI. CHOREA.

St. VITUS'S DANCE.

Scelotyrbe, *Sauv. gen.* 136. *Sag.* 243.

Chorea, *Lin.* 139.

Scelotyrbe chorea Viti, *Sauv. sp.* 1.

Chorea St. Viti, *Sydenh. Sched. Monit.*

1. *Description.*] This disease shews itself first by a kind of lameness or instability of one of the legs, which the patients draw after them in a ridiculous manner : nor can they hold the arm of the same side still for a moment ; for if they lay it on their breast, or any other part of their body, it is immediately forced away by a convulsive motion. If they be desirous of drinking, they use a number of odd gesticulations before they can bring the cup to their mouths, because their arms are drawn this way and that by the convulsions which affect them.

2. *Causes.*] The general cause of St. Vitus's dance is a debility of the system ; and hence we find it attacks only weakly boys, and more especially girls, when under the age of puberty. But the particular causes determining the muscles to be affected in such and such a manner are entirely unknown.

3. *Prognosis.*] As this disorder scarce ever attacks any persons but such as are under the age of puberty, there is almost a certain prospect of its being then cured, though generally the disorder is easily removed before that time.

4. *Cure.*] The cure of this disease is to be attempted in the way directed under EPILEPSY. Dr. Smith advises the following means to be used.

In the cure, it may be necessary to premise an emetic of ipec-

uanha; or, what is still better, a grain or two of vitriolated copper. Afterwards,

No. 301.) \mathcal{R} Auri musivi, \mathfrak{zj} . ad \mathfrak{zj} .

Rhubarb. gr. iv. ad \mathfrak{zss} .

Misce fiat Pulv. mane et vesp. fumend.

Vel (No. 302.) \mathcal{R} Limatur. stanni \mathfrak{zss} . ad \mathfrak{zj} .

Conf. rutæ q. s. ut. ft. Bol. mane et vesp. fumendus.

(No. 303.) \mathcal{R} Tinct. foetid. \mathfrak{zj} .

Sumend. gutt. xxx. ad. \mathfrak{zj} . ter quaterve de die.

If the disease should not yield to the above, the cold bath and chalybeates will most probably effect a cure.

The remedies which the doctor has directed in the treatment of epilepsy may also be adopted, as circumstances may require, in this disease.

Dr. Saunders says, that in some cases of plethora it may be necessary to bleed. In almost all cases, a brisk purgative or two ought to precede the tonic and antispasmodic remedies to be afterwards employed. Of this kind are bark and iron, valerian, preparations of zinc and copper; and, in some cases, *oleum succini*.

He directs our attention to (No. 306, 308, *et seq.*) employed in the epilepsy, and also to the following formulæ:

(No. 304.) \mathcal{R} Cinchonæ flav. in pulv. trit. \mathfrak{zj} .

Chamæm. flor. pulv. \mathfrak{zss} .

Ferri rubigin. \mathfrak{ziss} .

Syr. aurant. cort. q. s.

Fiat Electuarium, de quo sumat quant. nucis mosch. ter quotidie.

(No. 305.) \mathcal{R} Extr. cinchon. moll. \mathfrak{ziss} .

Ferri vitriol. in pulv. trit. \mathfrak{zj} .

Syr. Simpl. si opus fuerit ad massam fingendam.

Fiant pilulæ triginta, quarum tres mane, meridie, vespereque sumantur.

GENUS LII. RAPHANIA.

Raphania, *Lin.* 155. *Vog.* 143. *Lin. Amœn. Acad.* Vol. VI.

Convulsio raphania, *Sauv.* sp. 7.

Eclampsia typhodes, *Sauv.* sp. 1. *Sennert.* de febr. l. iv. cap. 16.

Gregor. Horst. Oper. Tom. II. l. viii. obs. 22. *Brunner* in

Ephem. Germ. D. iii. A. ii. obs. 224. *Willisch.* ibid. cent.

vii. obs. 13. *Wesfer.* de Affect. Capitis, obs. 120. *Breslauer*

Sammlung 1717, Julio, Septembri, & Decembr. Ibid. 1723.

Januar. A. N. C. Vol. VII. obs. 41. *Bruckman.* Com.

Norimb. 1743, p. 50.

1. *Description.*] We have no English name for this disease. According to Sauvages, it begins with a lassitude of the limbs,

transient colds and shiverings, pain of the head, and anxieties of the præcordia. Then come on spasmodic startings of the fingers and feet; also of the tendons and muscles, conspicuous below the skin. The disease is attended with heat, fever, delirium, stupor, constriction of the breast, suffocating dyspnœa, loss of voice, horrid convulsions of the limbs, preceded by a formication, or sensation as of ants or other small insects creeping on the parts. In this state of the disease, the convulsive paroxysms are attended with most violent pains in the limbs, vomiting, or diarrhœa, with the passing of worms, thirst, and in young people an unnatural hunger. It continues from ten days to three months. About the eleventh or twentieth day, some are relieved by copious sweats, or purple exanthemata: while others fall into tabes, with stupor, or stiffness of the joints.

2. *Causes.*] This disease is frequently epidemic in Suabia and other parts of Germany; where it is said to be produced by seeds of radishes, which are often mixed with rye in that country; and from this supposed cause the disease takes its name. It is also, however, a very common opinion, that this disease depends on the rye used in diet being of a bad quality, and particularly containing a large proportion of what is called *spurred rye*.

3. *Cure.*] In this affection, also, the cure, as far as it has yet been discovered, is very much the same with that of epilepsy, the disease next to be considered. Purging with (No. 162.), or with calomel alone, seems to be the first step that should be taken; and afterwards the remedies alluded to may be very properly resorted to.

GENUS LIII. EPILEPSIA.

EPILEPSY.

Epilepsia, *Sauv.* gen. 134. *Lin.* 143. *Vog.* 188. *Sag.* gen.
24. *Boerb.* 1071. *Hoffm.* III. 9. *Junck.* 54.
Eclampsia, *Sauv.* gen. 133. 180. *Sag.* gen. 240.

Sp. I. The CEREBRALIS, or *Epilepsy* depending on an affection of the *Brain*.

Epilepsia plethorica, *Sauv.* sp. 1.
Eclampsia plethorica, *Sauv.* sp. 7.
Epilepsia cachectica, *Sauv.* sp. 2.

Sp. I. The SYMPATHICA, or *Sympathetic Epilepsy*, with a sensation of something rising from a certain part of the body towards the head.

Epilepsia sympathica, *Sauv.* sp. 8.

Epilepsia pedisympomatica, *Sauv.* sp. 6.

Sp. II. The OCCASIONALIS, or *Epilepsy* arising from various irritating Causes.

Epilepsia traumatica, *Sauv.* sp. 13.

Eclampsia traumatica, *Sauv.* sp. 9.

Epilepsia a dolore, *Sauv.* sp. 10.

Epilepsia rachialgica, *Sauv.* sp. 14.

Eclampsia a doloribus, *Sauv.* sp. 4.

a. Rachialgica.

b. Ab otalgia.

c. A dentitione.

Eclampsia parturientium, *Sauv.* sp. 3.

Eclampsia verminosa, *Sauv.* sp. 2.

Eclampsia ab atropa, *Sauv.* sp. 11.

Eclampsia ab œnanthe, *Sauv.* sp. 12.

Eclampsia a cicuta, *Sauv.* sp. 13.

Eclampsia a coriaria, *Sauv.* sp. 14.

Epilepsia exanthematica, *Sauv.* sp. 11.

Epilepsia cachectica, *Sauv.* sp. 2.

Epilepsia stomachica, *Sauv.* sp. 3.

Eclampsia a faburra, *Sauv.* sp. 5.

Epilepsia a pathemate, *Sauv.* sp. 7.

Eclampsia ab inanitione, *Sauv.* sp. 8.

Epilepsia neophytorum, *Sauv.* sp. 15.

1. *Description.*] The epilepsy often attacks suddenly and without giving any warning: but more frequently is preceded by a pain in the head, lassitude, some disturbance of the senses, unquiet sleep, unusual dread, dimness of sight, a noise in the ears, palpitation of the heart, coldness of the joints, and in some there is a sensation of formication, or of cold air, &c. ascending from the lower extremities towards the head. In the fit, the persons fall suddenly to the ground (whence the name of the *falling sickness*), frequently with a violent cry. The thumbs are shut up close in the palms of the hands, and are with difficulty taken out; the eyes are distorted, so that nothing but the whites are to be seen; all sensation is suspended, inasmuch, that by no smell, noise, or otherwise, nor even by pinching the body, can they be brought to themselves; they froth at the mouth, with a hissing

kind of noise; the tongue is frequently lacerated by the teeth, and there is a violent convulsive motion of the arms and legs. Sometimes, however, the limbs, instead of being agitated by convulsive motions, are all stiff, and the patients are as immoveable as a statue. In children the penis is erected; and in young men there is an emission of the semen, and the urine is often thrown out to a considerable distance. At length there is a remission of the symptoms, and the patients recover after a longer or shorter interval; when they complain of a pain, torpor, or heaviness of the head, with a lassitude of all the joints.

2. *Causes, &c.*] The dissection of epileptic subjects has shewn a variety of morbid appearances, which may be supposed to have contributed to the disease; such as, indurations in the brain or meninges; caries of the internal surface of the cranium; projections of the bony substance of the same, pressing upon the brain; collections of serum or purulent matter, and earthy concretions within the skull; besides many others which are recorded by Bonetus, Morgagni, and Licutaud. But often the causes are impossible to be discovered; for even in those who have died of the disease, the brain and all other parts of the nervous system have been apparently sound. The disease will attack strong as well as weak people; and in those who are subject to it, any considerable excess in drinking, a surfeit, violent passion, or venery, &c. will certainly bring on a fit. Some have epileptic paroxysms returning periodically after considerable intervals; and the disease has been thought to have some dependence on the phases of the moon.

3. *Prognosis.*] If the epilepsy comes on before the time of puberty, there are some hopes of its going off at that time. But it is a bad sign when it attacks about the 21st year, and still worse if the fits grow more frequent; for then the animal functions are often destroyed, as well as those of the mind, and the patient becomes stupid and foolish. Sometimes it will terminate in melancholy or madness, and sometimes in a mortal apoplexy or palsy. It has sometimes, however, been observed, that epilepsies have been removed by the appearance of cutaneous diseases, as the itch, small-pox, measles, &c. While the disease is recent, therefore, we are not to despair of a cure; but if it be of long standing, or hereditary, there is very little reason to expect that it can be removed.

4. *Cure.*] From the symptoms occurring in epilepsy, which consist of involuntary convulsive motions, and an affection of the mental powers, there is reason to conclude, that the fit immediately depends on the induction of some peculiar action of the brain; but that convulsions may ensue from this cause, it would seem necessary that there should also occur a peculiar disposition to action in the moving fibres. On this ground then we may

suppose the cure to be chiefly expected on one of two principles; either by our being able to prevent the peculiar action of the brain, or to remove the disposition to action in the moving fibres. The first is chiefly to be accomplished by the removal of irritating causes; by preventing their influence from being propagated to the brain, when they are applied to remote parts; or by counteracting their influence, from inducing in the brain a state of action different from that to which they give rise. The second is chiefly to be obtained by diminishing the mobility of the nervous energy, and strengthening the tone of the moving fibres. It must, however, be allowed, that in all convulsive disorders, excepting those which are cured by nature about the time of puberty, the cure by artificial means is very difficult. Numerous specifics have been recommended, but all of them have failed in answering the expectation. When the cause can be discovered, that must be removed. In other cases, the cold bath, valerian root, castor, musk, opium, the foetid gums, Peruvian bark, with the whole tribe of nervous and antispasmodic medicines, have been recommended; but none of these, or indeed any combination of them, have been found generally useful; though the lighter, or symptomatic cases, may often be removed by them.

Dr. Saunders lays down the following plan of treatment in this disease.

In the paroxysm we should endeavour to moderate the violence of the convulsive symptoms:

- (1) By bleeding from the jugular vein, or temporal artery, provided there be symptoms of plethora and local congestion in the head.
- (2) By applying stimuli to the lower extremities, such as blisters or warm cataplasms.
- (3) By anodyne and antispasmodic clysters, or by liniments of the same kind rubbed along the spine.

The effects of external injuries, such as depressions, fractures of the skull, or extraneous bodies, should be removed.

In the interval of the paroxysm, our attention should be directed to obviate its return;

- (1) By proper evacuations.
- (2) By setons or open blisters.
- (3) By remedies which may remove the morbid irritability, such as cinchona, preparations of iron, copper, and other tonics.
- (4) By occasional antispasmodics.
- (5) In symptomatic epilepsy, vomits may be used with advantage.
- (6) An attention is to be paid to regimen; a milk diet having in some cases proved the only means of removing the disease.
- (7) The morbid debility is frequently removable by cold bathing.

Agreeably to this plan of treatment, the doctor offers the following formulæ to the choice of the practitioner :

(No. 306.) \mathcal{R} Argent. nitrat. gr. iij.

Solve terendo in aquæ distillatæ guttis aliquot, et adde,
Micæ panis q. s.

Fiat massa, in pilulas viginti dividenda. Sumat duas vel tres bis die.

(No. 307.) \mathcal{R} Cinchonæ flavæ in pulv. trit. \mathfrak{z} ij.

Divide in partes duodecim æquales, quarum capiat unam in horas ex lactis vaccini cyatho, absente paroxysmo

(No. 308.) \mathcal{R} Pil. cupri (Phar. Edin.) \mathfrak{z} j.

Divide in pilulas viginti, quarum capiat in die duas vel tres.

(No. 309.) \mathcal{R} Valerian. sylvest. in pulv. trit. \mathfrak{z} j.

Syr. cort. aurant. q. s.

Fiat Electuarium, cujus detur cochlearium minimum unum vel alterum, ter indies, ex aliquot uncis Aquæ pulegii.

(No. 310.) \mathcal{R} Zinc. calcinat. gr. viij.

Conf. rosæ rub. q. s.

Fiat Bolus, bis in die fumendus.

(No. 311.) \mathcal{R} Zinc. vitriolat. \mathfrak{z} j.

Aq. tepid. \mathfrak{z} iv.

Solve ut fit Haustus emeticus, pro adulto.

(No. 312.) \mathcal{R} Zinc. vitriol. \mathfrak{z} j.

Conf. rosæ rub. q. s. ad pilulas viginti fingenda.

Sumatur una vel altera bis indies.

To these we shall add the formulæ of Dr. Hugh Smith :

(No. 313.) \mathcal{R} Camphor. gr. vj.

Nitri, \mathfrak{z} ß.

Confect. paulin. \mathfrak{z} ß.

Syr. simp. q. f. ut ft. Bol. sexta quaque hora fumendus.

Vel (No. 314.) \mathcal{R} Castor, \mathfrak{z} j.

Ol. corn. cerv. gtt. vj.

Confect. paulin. \mathfrak{z} ß.

Misce fiat Bolus.

(No. 315.) \mathcal{R} Aq. fontan. \mathfrak{z} vj.

Tinct. fuligin.

Tinct. valer. vol. aa \mathfrak{z} ij.

Syr. papav. err. \mathfrak{z} ß.

M. ft. Julep. fum. coch. iij. subinde.

The Peruvian bark is directed in the following way :

(No. 316.) \mathcal{R} Extract. cinchonæ \mathfrak{z} j.

Alumin.

Rad. serpentar. virg. aa gr. vj.

Syr. croci, q. f. ut ft. Bol. ter die fumend.

The doctor adds, that the *cardamine*, or ladies-smock, has been

prescribed to advantage; and may be taken to a drachm three or four times every day.

Of late years, the *calx*, improperly called the *flowers*, of zinc, have obtained such reputation in convulsive disorders as to be received into the Edinburgh Pharmacopœia under the title of *zincum ustum*. They were proposed by the celebrated Gaubius as an antispasmodic, in his *Adversaria*; and their efficacy has since been confirmed by various observations. In an inaugural dissertation, published by Dr. Hart at Leyden, the medical virtues of the flowers of zinc are considered. He observes that they have long been used externally, chiefly for inflammations of the eyes from acrid lymph. Glauber first proposed the internal use of them; and Gaubius discovered them to be the remedy of a celebrated empiric, Luddemannus, which he styled his *luna fixata*. After this he exhibited them with success in convulsive and spasmodic diseases. Dr. Hart supposes, that they act either as absorbents or as possessing a specific virtue; but is a strong advocate for their efficacy, on whatever principles they may operate; and, in favour of his opinion, relates seven cases in which they proved successful. A girl of seventeen years of age was seized with a slight chorea from a fright; and when the disease had continued six days, she began to take the calx of zinc, by which her disorder was removed in less than three weeks. Her cure required only sixteen grains of the calx. In a few months the complaints returned from the same cause, and were removed by four grains of the medicine divided into ten doses.—A boy of about four years of age, labouring under a real epilepsy, suspected to be hereditary, was cured by a grain of the calx of zinc taken every day for some time.—A man, fifty years old, thrown into convulsions from a violent passion, was cured by a grain of the calx taken every two hours. The disease had gone off upon venesection and the use of some other remedies; but returned again in two weeks, when it was finally removed by the zinc. The two last cases are related from Gaubius, who affirms that he has used the flowers of zinc in cases of the chincough, hysteric hiccough, and spasmus cynicus; that they frequently did more than other medicines, but were by no means successful in every case. The other cures mentioned by Dr. Hart are similar to those above mentioned. But it does not appear that he ever saw a confirmed epilepsy cured by this medicine.

In the first volume of *Edinburgh Medical Commentaries*, we have an account by Mr. Benjamin Bell, of a man afflicted with a confirmed epilepsy, who was considerably relieved by the flowers of zinc. He was about thirty-five years old, and had been subject to the disease for ten years. At first the paroxysms did not return oftener than once a month; but becoming gradually more frequent, they came at last to be in a manner continual, insomuch

that he would have ten, eleven, or twelve attacks in a day, and very seldom had an interval of twenty-four hours. His memory and judgment were so much impaired, that he could scarce answer a question distinctly. He had used a great variety of medicines without any benefit. About three years before applying to Mr. Bell, he had violent rheumatic pains in his limbs, which left such an extreme debility that he was never afterwards able to get out of bed without the assistance of two or three people.

On the 22d of October, 1772, Mr. Bell found him in the above-mentioned condition, and prescribed as follows :

(No. 317.) R Flor. Zinc. gr. xxiv.

Ext. Gent. ʒi.

M. f. mass. et divid. in pill. xxiv cap. j. mane et vesp.

He continued to take two pills a-day till the 1st of November, without any sensible benefit. The dose was then doubled, and continued till the 12th; when the fits, though equally violent, became less frequent. The medicine was gradually augmented to ten pills thrice a-day; and the consequence was, that his memory and understanding returned, the fits became much slighter and less frequently repeated, though the disease could not be radically subdued.

In a young man labouring under the epilepsy, in whom the fits were preceded by an *aura epileptica*, or sensation like air arising from the inside of the knee-joint, the disease was also relieved, but not cured.

Dr. Percival relates some cases of epilepsy which seem to have been cured by the flowers of zinc; and in other cases, where the disease was not entirely removed by it, the spasms were nevertheless much mitigated. He did not observe that it promoted any evacuation; excepting that in some, upon being first taken, it occasioned a little sickness, which went off with a stool. He adds, that those apothecaries who do not prepare this medicine themselves, are in great danger of being imposed upon, as it is sometimes a mere corrosion of the zinc by an acid, and even imperfectly washed.

The good effects of calcined zinc as an antispasmodic are also attested by Dr. Haygarth of Chester and Dr. White of York. The former gives a test of their goodness, which may be of use to those who do not prepare them, namely, that the flowers of zinc, when strongly heated, become yellow, but reassume their white colour on being allowed to cool. The latter gives a case of hiraños, or strange convulsions of almost all the muscles of the body, cured by zinc, after a number of other remedies had failed. The patient, however, had been formerly much relieved by Ward's antimonial pill.

In Dr. Home's clinical experiments and histories, also, calcined

zinc is mentioned as having been found serviceable upon trial in the Royal Infirmary of Edinburgh. Of the other principal remedies which have been recommended for the epilepsy and other convulsive disorders allied to it, we have the following account by the same author.

(1) *The cold-bath* was tried in one who had a convulsive disorder of one side, but the symptoms were rendered much worse by it.

(2) *Venesection*. Not to be depended on in convulsions.

(3) *Electricity*. In two convulsive cases was of no service.

(4) *Epispastics*. Do not seem to be powerful antispasmodics.

(5) *Valerian*. In nine convulsive cases, for which this remedy hath been reckoned almost a specific, it not only made no cure, but could scarcely be reckoned to do any good. Dr. Home supposes that it acts as a bitter tonic, something like the *serpentaria Virginiana*. Though much used at present, he tells us it has always appeared to him a weak, often a hurtful, medicine.

(6) *Musk*. Six convulsive patients treated with large doses of this remedy, were neither cured nor in the least relieved.

(7) *Castor*, seems to be unworthy of the confidence formerly put in it. It is indeed possessed of a sedative power, and therefore may be useful in spasmodic feverish cases.

(8) *Assafetida* has considerable antispasmodic powers, but is not always successful. It heats and quickens the pulse; and is therefore improper in cases attended with inflammation. It disagrees with some from a peculiarity of constitution; exciting pain in the stomach, and vomiting; but this can be known only after the exhibition of the medicine.

(9) *Cinchona*. Of seven spasmodic cases, six were either cured or mitigated. An epilepsy of eight years' standing was very much relieved by taking the bark for a month, and one of two years' standing by taking it for ten days. But the medicine is of a heating nature, and therefore is not to be employed in cases attended with inflammatory symptoms.

(10) *Peony root*, was given in two epileptic patients without the least success.

(11) *Viscus quercinus*, or mistletoe, was given in the quantity of two scruples five times a-day to an epileptic patient, without success.

(12) *Extractum hyosciami* was given to an epileptic patient, to one afflicted with the hemitonus, and to one who laboured under the hysteric affection, without the least good effect.

(13) *Folia aurantiorum* were exhibited with the like bad success. Five drachms of the powdered leaves were taken at once without any sensible effect.

(14) *Cardamina pratensis*, in three epileptic cases, was not attended with any success.

(15) *Opium* did no good.

(16) *Cuprum ammoniacum* made no cure in four cases of epilepsy in which it was tried.

That in many cases all these remedies have been employed without success, is not to be denied; and indeed it may with confidence be asserted, that a great majority of cases of epilepsy are incurable by any remedy that has yet been discovered. At the same time, as there is incontrovertible evidence that some of them have succeeded at least in certain cases, the more powerful may always be considered as deserving a fair trial.

The *cuprum ammoniacum*, in particular, seems well entitled to the attention of practitioners; for though it may be a medicine of great activity, yet under prudent administration it may be employed even with very young subjects without any hazard; and in several inveterate cases, which had obstinately resisted other medicines, it has brought about a complete recovery. The powers of this medicine indeed have been evinced by a very extraordinary accident. A young woman who was an attending patient at one of the public medical institutions in Edinburgh, rashly took, for a single dose, a whole box of pills which had been given her to take in gradual and increasing doses. The effects were proportionally violent, and her life was despaired of; but the event was that she not only recovered from the effects of the medicine itself, but never after had any return of her epilepsy.

GENUS LIV. PALPITATIO.

PALPITATION of the HEART.

Palpitatio, *Sauv.* gen. 130. *Lin.* 132. *Vog.* 213. *Sag.* 237.
Hoffm. III. 83. *Junk.* 33.

The palpitation of the heart is sometimes so violent, that it may be heard at a considerable distance. It may proceed from a bad conformation of the heart itself, or some of the large vessels. It may also be occasioned by wounds or abscesses in the heart; or it may proceed from polypous concretions or ossifications of that viscus, or from plethora, fear, or spasmodic affections of the nervous system. When it proceeds from diseases of the heart or large vessels, it is absolutely incurable. In spasmodic cases, the remedies above related may be used. If the patient be plethoric, bleeding will probably remove the disorder, at least for the present.

GENUS LV. ASTHMA.

Asthma, *Sauv.* gen. 145. *Lin.* 161. *Vog.* 268. *Sag.* gen. 282.

Asthma convulsivum, et spasmodico-flatulentum, *Hoffm.* III. 94.

Asthma spasticum. *Junck.* tab. 51.

Sp. I. *Spontaneous* ASTHMA.

Asthma humidum, *Sauv.* sp. 1. Flatulentum, *Floyer* on the Asthma, chap. i.

Asthma convulsivum, *Sauv.* sp. 2. *Willis* Pharm. rat. P. II. sect. i. cap. 12.

Asthma hystericum, *Sauv.* sp. 3. *Floyer* on the Asthma, chap. i.

Asthma stomachicum, *Sauv.* sp. 8. *Floyer*, Scheme of the species of Asthma. Periodic Asthma 6.

Orthropncea spasmodica, *Sauv.* sp. 3.

Orthropncea hystERICA, *Sauv.* sp. 4.

Sp. II. The *Exanthematic* ASTHMA.

Asthma exanthematicum, *Sauv.* sp. 11.

Asthma cachecticum, *Sauv.* sp. 13.

Sp. III. The *Plethoric* ASTHMA.

Asthma plethoricum, *Sauv.* sp. 15.

1. *Description.*] This disease is evidently spasmodic, often hereditary, seldom appears in early life, and chiefly attacks males.

The paroxysms commence with a sense of straitness in the chest, and tightness, impeding respiration, and a cough; the attacks are generally in the night-time. The patient cannot lie in a horizontal posture, and when seized in that position is obliged immediately to become erect. The difficulty of breathing increases with a violent wheezing; after continuing in the same state for some hours, it becomes less difficult and oppressed, the cough is easier, and an expectoration of mucus taking place, the paroxysm abates till next night, but the symptoms continue in a greater or less degree in the day-time, varying from the weather and other circumstances. It is generally accompanied with some dyspeptic symptoms.

The pulse often remains regular and undisturbed, though sometimes symptoms of pyrexia attend the fit: the urine at the first is pale, but when the remission takes place it frequently becomes high coloured, and deposits a sediment.

In some persons the paroxysms are brought on by external heat, in others by cold. In either case, the sudden accession of the paroxysms will generally distinguish it from other cases of dyspnoea.

2. *Prognosis.*] There is a greater chance of curing the disease in youth than in advanced age. It often occasions a phthisis pulmonalis in young persons; when it continues a long time it frequently terminates in a hydrothorax, or brings on an aneurism of the heart or great vessels near it. A tremulous respiration, paralysis of the arms, and a diminution of the urinary secretion, are bad symptoms.

The asthma is a chronic disease, which may continue to give very great distress, at intervals, for a considerable number of years. Sir John Floyer, when he wrote his celebrated treatise, had laboured under repeated paroxysms for near thirty years.

The common distinction is into *humid* and *dry*; the former is accompanied with an expectoration of the mucus or purulent matter, but the latter is not. In the genuine humoral asthma, the patients are obliged to lean forward, the inspiration is short and spasmodic, and the expiration very slow.

Asthmatic persons have generally some warning of the attack, from a languor, loss of appetite, oppression, and swelling of the stomach from flatulence, which precede the fit; but it is usually in the middle of the night that the violent difficulty of breathing comes on.

The duration of the paroxysm is uncertain, as it will sometimes terminate in three or four hours, while at other times it shall continue for as many days; nay, it has been known to last three weeks without intermission. While it subsists, the patient is in very great distress, not being able to lie in bed, nor scarcely to speak or expectorate, so great is the difficulty of breathing; and yet, notwithstanding all this apparent interruption to the free passage of the blood through the lungs, an inflammation here seldom or never supervenes a fit of the asthma. As the paroxysm wears off, and the breathing becomes free, there is more or less of an expectoration of mucus; and the urine, from being pale and limpid, becomes high coloured, and lets fall a copious sediment.

3. *Treatment.*] In order to obtain relief in the fit, we must sometimes bleed, unless extreme weakness or old age should forbid, and repeat it according to the degrees of strength and fulness; a purging clyster, with a solution of assafoetida, must be immediately injected; and if the violence of the symptoms should

not speedily abate, it will be proper to apply a blistering plaster to the neck or breast.

In the height of the paroxysm, an emetic might be followed by dangerous symptoms, as it would increase the accumulation of blood in the vessels of the head; but vomiting will often prevent a fit of the asthma, especially if the stomach should chance to be loaded with any sort of saburra. A very strong infusion of roasted coffee has been found to give ease in an asthmatic paroxysm.

Sir John Pringle says it is the best abater of the paroxysms of the periodic asthma that he has seen. The coffee ought to be of the best Mocco, newly burnt, and made very strong immediately after grinding it. He commonly ordered an ounce for one dish; which is to be repeated fresh after the interval of a quarter or half an hour, and which is to be taken without milk or sugar. The medicine in general is mentioned by Musgrave in his treatise *de arthritide anomala*; but he first heard of it from a physician in Lichfield, who had been informed by the old people of that place, that Sir John Floyer, during the latter part of his life, kept free from, or at least lived easy under, his asthma, from the use of very strong coffee. This discovery, it seems, he made after the publication of his book upon that disease. Dr. Percival says he has frequently directed coffee in the asthma with great success.

In the intervals of the fits, persons subject to the asthma, especially the humid species, should take emetics from time to time. An infusion of tobacco is an emetic that has been said to be very serviceable in some asthmatic cases; but its operation is both so distressing and so dangerous, that it will never probably be introduced into common use as an emetic; and smoking or chewing the same has been known to prevent the frequency and severity of the paroxysms. Asthmatic patients may also use,

(No. 318.) ℞ Lac. ammoniac. ℥vij.

Oxymel. scillæ ℥j.

Vin. antim. tart. 3j. M.

Detur coch. j. vel ij. ter die.

With a view to promote expectoration, the gum ammoniac, and others of similar virtues, may be formed into pills, and combined with soap, as mentioned for the dyspnœa pituitosa; or a mass may be composed thus:

(No. 319.) ℞ Ase fœtid.

Bals. tolu. aa 3j.

Syr allii q. s.

Fiant pil. med. quarum capiat iij. vel iv. ter die.

These pills may be washed down by a medicated wine, impregnated with squills, horse-radish root, and mustard-seed: or a strong bitter infusion, with a little antimonial wine.

The *mistura ammoniacalis* of St. Bartholomew's is equally proper.

(No. 320.) R Lactis ammoniaci ℥iijss.
Tinct. scillæ ℥ij.
Tinct. opii gut. x Misce.

Detur unc. fs. subinde.

Dr. Hugh Smith says, the attenuating, stimulating medicines will best succeed as expectorants.

(No. 321.) R Sal. corn. cerv. vol. ℥℞.
Succ. limon. ℥iij.
Aq. cinnam. ten. ℥j. ℥ij.
Syr. scillitic. ℥j℞.

Misce fiat haust. sexta quaque hora sumend.

Vel, (No. 322.) R Lact. ammoniac. ℥j.
Aq. cinnam. ten. ℥vj.
Sperm. ceti sol. ℥j.
Sal. corn. cerv. vol. ℥℞.

Oxymel scillitic. ℥j℞. Misce fiat haustus.

(No. 323.) R Aq. cinnam. ten. ℥j℞.
Flor. benzoini, gr. iij.
Vin. ipecacuanh.
Syr. croci. aa ℥j.

Misce fiat haustus.

The *balsamic pill* of Fuller's Pharmacopœia, recommended by Dr. Morton in his Treatise on the pulmonary consumption, will be highly advisable in this as well as some other diseases of the lungs.

(No. 324.) R Gum ammoniac. ℥j℞.
Flor. benzoini, ℥j.
Balsam. Peruv. gr. xv.
Balf. sulphur. q. f. ut. ft. pill. No. xii. e ℥j. sumend. iij.
mane et vesp.

Mustard whey, as common drink, may be proper, or a decoction of the madder root, which, as an attenuant or expectorant, is a medicine exceeded only by few.

(No. 325.) R Rad. rub. tinctorum, ℥j.
Macis, ℥ij.

Coque ex aq. fontan. q. f. ad colatur. lib. ij.

Adde, Tinct. aromatic. ℥ij.

Syr. limon. ℥ij.

Misce fiat Apozema, sumend. ℥iij. ter quaterve de die.

In some cases crude mercury will be serviceable; in others flowers of sulphur, made into an electuary with honey or syrup of garlic; or either of the following, used at Guy's Hospital:

(No. 326.) R Balf. Locatelli,
Conf. rosæ rub. sing. ℥iv.
Balf. sulphur. ℥j. M.

Dosis drachma una ter die.

(No. 327.) R. Aq. menth. fativ. ℥ij.

Aq. piment.

Oxymel. scillæ sing. ℥j. M.

Dosis cochl. unum frequenter.

If a costive habit should prevail, it will be necessary from time to time to give a few grains of pills of aloes and myrrh, soap and aloes, or a mass of equal parts of rhubarb, scammony, and soap.

Dr. Temple directs in the paroxysm

(No. 328.) R. Sp. vitriol. æther. ℥j.

Detur coch. minim. in quovis vehiculo.

(No. 329.) R. Opii purif. gr. j.

Fiat pil. hora somni sumend.

He says the vapour of æther may be inhaled, which is likely to give great and speedy relief in the paroxysms. Assafoetida, and the warm bath should be ordered; and the patient should be made to breathe an atmosphere mixed with hydrogen, if it is the pure spasmodic asthma; if it is what is called the humoral, or moist, he should respire an air with hydrocarbonic air, or with an increased proportion of oxygen.

The dry or *spasmodic asthma*, during the extreme violence of the fit, is best relieved by opiates; and sometimes very large doses are required. But in order to obtain permanent relief, nothing is found to answer better than ipecacuanha in small doses. Three, five, eight, or ten grains, according to the strength and constitution of the patient, given every other day, have been productive of the happiest effects; acting sometimes as an evacuant, pumping up the viscid phlegm; at others as an antispasmodic or sedative. Issues are generally recommended in both species, and will often be found useful.

Changes of weather are usually felt very sensibly by asthmatic people, who in general cannot live with tolerable ease in the atmosphere of large cities; though we shall sometimes meet with patients who feel better with this air which is so replete with gross effluvia of various kinds, than with the purest that can be found in country situations. And some are found who breathe with the most ease in a crowded room, with a fire and candles.

A light diet of meats that are easy of digestion, and not flatulent, is requisite for asthmatic people; and the exercise of riding is indispensably necessary.

When the asthma is found to depend on some other disease, whether it be the gout or an intermittent fever, or when it proceeds from the striking-in of some cutaneous eruption, regard must be always had to the primary disease; thus, in the *asthma arthriticum*, sinapisms to the feet, or blistering, will be absolutely necessary, in order, if possible, to bring on a fit of the gout. And when the dregs of an ague give rise to an asthma, which is

termed *febriculofum*, and invades at regular intervals, we muſt have recourſe to the Peruvian bark. The *aſthma exanthematicum* will require bliſters or iſſues, to give vent to the acrid matters which were repelled from the ſurface of the body; and courſes of ſulphureous waters, goats' whey, and ſweetening diet drinks, or perhaps mercurial alteratives, in order to correct the ſharpneſs of the juices.

GENUS LVI. DYSPOŒA.

Habitual DIFFICULTY OF BREATHING.

Dypoſſœa, *Sauv.* gen. 144. *Lin.* 160. *Vog.* 267. *Sag.* 251.
Junck. 32.

Sp. I. The Catarrhal DYSPOŒA.

Aſthma catarrhale, *Sauv.* ſp. 16.

Aſthma pneumonicum, *Willis* Pharm. rat. P. II. ſect. i. cap. 12.

Aſthma pituitofum, *Hoffm.* III. ſect. ii. cap. 2. ſ. 3.

Aſthma pneumodes, *Sauv.* ſp. 17.

This is readily known by the ſymptoms of pneumonia and catarrh attending it, and to the removal of theſe ſymptoms the care of the phyſician muſt be principally directed.

Sp. II. The Dry DYSPOŒA.

Dypoſſœa a tuberculis, a hydatibus, &c. *Sauv.* ſp. 2. 4. 5. 20.
Orthopoſſœa a lipomate, *Sauv.* ſp. 18.

This is generally accompanied with a phthiſis pulmonalis; but Sauvages mentions one ſpecies of phthiſis to which the dry dypoſſœa ſeems more particularly to belong. The patients fall away by degrees, and have a great difficulty of breathing, continual thirſt, and little or no ſpitting. When opened after death, their lungs are found not to be ulcerated, but thrivelled and contracted as if they had been ſmoke-dried. Goldſmiths and chemiſts are ſaid to be ſubject to this diſeaſe by reaſon of the vapours they draw in with their breath. Sauvages doth not mention any particular remedy. Shortneſs of breath ariſing from *tubercles*, as they are termed, or a ſcirrhous enlargement of the lymphatic glands which are diſperſed through the lungs, is commonly found in ſcrofulous habits, and may be diſtinguiſhed by the concomitancy of thoſe external ſwellings and appearances which particularly mark the ſcrofula. This ſpecies of dypoſſœa generally ends in a phthiſis. Courſes of goats' whey and of ſea-water have been

known to do service; but it must be confessed, that a perfect cure is seldom obtained. Issues are of use in these cases, as they appear to prevent the ill effects of an over-fullness, if it should happen at any time to supervene.

Sp. III. DYSPNŒA from *Changes in the Weather*. (Savv. sp. 12.)

This seems to be a disease entirely spasmodic, and the antispasmodics already related are accordingly indicated.

Sp. IV. The DYSPNŒA from *Earthy Substances* formed in the *Lungs*.

Sauvages mentions this disease as much more common in brutes than in the human race; but Dr. Cullen mentions his having seen some instances; and we have several accounts by different authors of calculous matters being coughed up by people labouring under a dyspnœa, and threatened with consumption. In three cases of this kind which fell under Dr. Cullen's inspection, there was no appearance of earthy or stony concretions in any other part of the body. The calcareous matter was coughed up frequently with a little blood, sometimes with mucus only, and sometimes with pus. In one of these cases, an exquisite phthisis came on, and proved mortal: in the other two the symptoms of phthisis were never fully formed; and after some time, merely by a milk diet and avoiding irritation, the patients entirely recovered.

Sauvages also greatly recommends milk in these cases, and soap for dissolving the concretions. The reason why brutes are more subject to these pulmonary calculi than mankind, is that they very seldom cough, and thus the stagnating mucus or lymph concretes into a kind of gypseous matter.

Sp. V. The *Watery* DYSPNŒA.

Dyspnœa pituitosa, Savv. sp. 1.

Orthopnœa ab hydropneumonia, Savv. 12.

This may arise from too great a defluxion of mucus on the lungs, or from an effusion of serum, as is mentioned under the pneumonia. The treatment of the disease may be gathered from what has been already said under the heads of pneumonia, catarrh, empyema, &c.

Sp. VI. The DYSPNŒA from *Corpulency*.

Othopnœa apinguedine, Savv. sp. 6.

There have been many instances of suffocation and death occa-

sioned by too great corpulency. These fatal effects, however, may be almost always avoided if the persons have resolution to persist in an active and very temperate course of life; avoiding animal food, much sleep, and using a great deal of exercise. In the third volume of the Medical Observations, however, there is an extraordinary instance of internal obesity which neither shewed itself externally, nor could be removed by any medicines.

Other species of dyspnœa have been considered under PHTHISIS. It is frequently symptomatic of diseases of the heart and large vessels, or swellings of the abdomen, &c.

GENUS LVII. PERTUSSIS.

HOOPING-COUGH.

Pertussis Sydenham, Ed. Leid. p. 200. 311, 312. *Huxham de aere ad ann. 1732.*

Tussis convulsiva, five ferina, Hoffm. III. III.

Tussis ferina, Sauv. sp. 10. Sag. sp. 10.

Tussis convulsiva, Sauv. sp. 11. Sag. sp. 11.

Amphimerina tussiculosa, Sauv. sp. 13.

1. *Description.*] This disease comes on at first like a common cold; but is from the beginning attended with a greater degree of dyspnœa than is common in catarrh; and there is a remarkable affection of the eyes, as if they were swelled, and a little pushed out of their sockets. By degrees the fits of coughing become longer and more violent, till at last they are plainly convulsive, so that for a considerable time the patient cannot respire, and when at last he recovers his breath, inspiration is performed with a shrill kind of noise like the crowing of a cock. This kind of inspiration serves only as an introduction to another convulsive fit of coughing, which is in like manner followed by another inspiration of the same kind; and thus it continues for some time, very often till the patient vomits, which puts an end to the paroxysm at that time. These paroxysms are attended with a violent determination of the blood towards the head, so that the vessels become extremely turgid, and blood not unfrequently flows from the mouth and nose. The disease is tedious, and often continues for many months. It is not commonly attended with fever.

2. *Causes, &c.*] The whooping-cough is an infectious disorder, and very often epidemic; but the nature of the contagion is not understood; at least it is no further understood than that of small-pox, measles, or similar epidemics. We well know that it is from a peculiar and specific contagion alone that this disease, as well as the others above mentioned, can arise. But with regard to the

nature of any of them, we are totally in the dark. It generally attacks children, or adults of a lax habit, making its attack frequently in the spring or autumn; at the same time, when this contagion is introduced into any town, village, or neighbourhood, will rage epidemically at any season. Those alone are affected with this disease who have never before been subjected to it. For this affection, as well as in small-pox, having had the disease once, gives defence against future contagion. Every individual, however, does not seem to be equally really affected with this contagion: like other contagious diseases occurring only once in a lifetime, it may naturally be expected to be more frequent among children than at any other period of life. But many, though frequently exposed to contagion, are yet not affected with the disease; and those children who live upon unwholesome watery food, or breathe unwholesome air, are most liable to its attacks, and suffer most from them. In general it has been concluded, that whatever weakens the solids, or tends to bring on a dissolution of the fluids, predisposes to this disease.

3. *Prognosis.*] The chincough is not very often fatal. During the epidemic, however, it is often observed to be much more dangerous and much more severe than during another. This is often remarked with regard even to particular periods of the same epidemic; and it is also to be observed, that in certain families this disease is much more severe than in others. Its danger, however, is still more connected with the period of life at which it occurs. In children under two years of age it is most dangerous; and kills them by producing convulsions, suffocation, inflammation, and suppuration of the brain or in the lungs, ruptures, and incurvation of the spine. In pregnant women it will produce abortion, and in adults inflammation of the lungs, and all the consequences of pneumonia, more frequently than in children. From long continuance of the disease patients will become asthmatic, tickety, and scrofulous. It is generally reckoned a good sign when a fit terminates by vomiting; for in this disease there seems to be a considerable increase of the secretion of mucus, and the vomiting affords great relief.

4. *Cure.*] Pertussis is one of those diseases, which, after the contagion has exerted its influence, can be terminated only by running a certain course: but it is much less limited in its course than small-pox and measles, and often it runs on to a very great length, or at least it is very difficult to distinguish certain sequelæ of this disease from the disease itself. And when it exists in the former of these states, it admits of an artificial termination. In the treatment of this affection, therefore, the objects at which a practitioner chiefly aims, are, in the first place, the obviating urgent symptoms, and forwarding the natural termination of the disease; and, secondly, the inducing an artificial termination.

With these intentions various remedies are employed on different occasions. The most approved are vomits, purges, bleeding, and the attenuating pectorals; for the other kinds generally do hurt: but large evacuations of any kind are pernicious. In the Medical Observations, vol. III. Dr. Morris recommends castor and the bark; but in cases attended with any degree of inflammation, the latter must certainly do hurt, and the former will generally be insignificant. Dr. Butter, in a dissertation expressly on the subject, relates twenty cases of it cured by the extract of hemlock. He directs half a grain a-day for a child under six months old; one grain for a child from six months to two years; afterwards allowing half a grain for every year of the patient's age till he be twenty; beyond that period he directs ten grains to be given for the first day's consumption, gradually increasing the dose according to the effect. If the patient have not two stools a-day, he advises magnesia, or the *lixivia vitriolata sulphurea*, to be added to the hemlock mixture. By this method, he says, the peculiar symptoms of the disease are removed in the space of a week; nothing but a slight cough remaining. The use of hemlock, however, has by no means become universal in consequence of this publication, nor indeed has this remedy been found equally successful with others who have given it a fair trial. The remedy generally most depended upon in this disease is change of air; but Dr. Gregory, professor of the practice of medicine in the university of Edinburgh, denies its efficacy. When the experiment is made, however, the patient, as soon as the disease is fully formed, ought to be removed to some other part of the country: but there is no occasion for going to a distant place; a mile or two, or frequently a smaller distance, will be sufficient; and in this new habitation, the frequency of the cough is found almost instantly to diminish in a most surprising degree. Yet after remaining there for some time, the cough will often become again more frequent, and the other symptoms increased. In this case, another change of air, or even a return to the former habitation, becomes necessary. Manifest benefit, it is said, has even been derived by changing a patient from one room of a house to another. But although change of air has thus been advantageous, it must also be remarked, that when it has been had recourse to at very early periods it has often done mischief, particularly by aggravating the febrile and inflammatory symptoms. If the disease be attended with fever, bleeding and other antiphlogistic remedies are proper. Dr. Buchan recommends an ointment made of equal parts of garlic and hog's lard applied to the soles of the feet; but if it have any effect, it is probably merely as an *emplastrum calidum*. It ought to be put on a rag and applied like a plaster. Opiates may sometimes be useful, but in general are to be avoided. They are chiefly ser-

viceable where the cough is very frequent, with little expectoration. In these cases, benefit has sometimes also been derived from vitriolic ether, and sometimes from the tincture of cantharides; the latter of which Dr. Temple joins with the bark in the following way:

(No. 330.) ℞ Decoct. cinchon. ℥iiss.

Tinct. opii camphor. ℥ss.

Tinct. cantharid. gtt. xl. m. dof. cochl. j. ad ij. quartis horis.

Dr. Hugh Smith, after observing that emetics, occasionally repeated, are of great service, and blisters when the symptoms are urgent, directs the following:

(No. 331.) ℞ Julep. e molcho, ℥vj.

Tinct. opii camph. ℥ss.

Tinct. valerian. vol. ℥j. M.

Capiat coch. ij. vel. iij. ter quaterve de die.

(No. 332.) ℞ Lact. ammoniac.

Aq. cinnam. ten. aa ℥ij.

Tinct. castor. ℥ij.

Syr. balsamic. ℥ss.

Fiat Mist. fumend. coch. j. subinde.

Practitioners have been so often foiled in their attempt to cure this disease, and indeed they have had so much reason to suppose that large quantities of medicine have, in some cases, proved injurious rather than beneficial, that nothing is now attempted by judicious and conscientious physicians beyond the mere palliation of occasional symptoms, and the aid given by means of antimonials to a frequent effort of nature to relieve the patient by vomiting. This practice is certainly of a high degree of importance, as well as the use of wine where the patient is much weakened.

The *aqua antimonii tartarificati*, of St. Bartholomew's, is a good medicine.

(No. 333.) ℞ Antim. tartaris. gr. ij.

Aquæ distillatæ ℥iv. Misce.

Dosis ℥j. ad. ℥iv. quadrante quaque horæ, donec supervenerit vomitus.

Or the following, used under the same title at St. George's:

(No. 334.) ℞ Antim. tartaris. gr. iv.

Crystal. tartari gr. x.

Aq. distillat. ℥x. Misce.

The dose of the latter is the same as that of the preceding solution; it is to be proportioned, of course, to the age of the patient, from the adult subject downward.

The excellence of this remedy, however, is not limited to its use as an emetic, in which character it relieves whenever the paroxysms are unusually urgent. Its powers as a relaxant and

antispasmodic are also very material in the intervals; and it should be administered, in the quantity of one-fourth or one-sixth of the vomiting dose, three or four times a-day. Opiates, added on particular occasions, are highly proper, provided *too great* a determination to the skin is not occasioned by them.

An almost instantaneous termination has, on some occasions, been put to this disease, by exciting a high degree of fear, or by inducing another febrile contagion; but the effects of both are too uncertain and too dangerous to be employed in practice.

GENUS LVIII. PYROSIS.

The WATER-BRASH.

Pyrosis, *Sauv.* gen. 200. *Sag.* 158.

Soda, *Lin.* 47. *Vog.* 154.

Scotis, the WATER-BRASH.

Pyrosis Suecica, *Sauv.* sp. 4.

Cardialgia sputatoria, *Sauv.* sp. 5:

This disease, whether primary or symptomatic, has, in a great measure, been treated under DYSPEPSIA; nevertheless we here subjoin an account of it given by Dr. Temple.

1. *Description.*] This disease appears to be a peculiar spasmodic affection of the stomach; it most frequently attacks females, and those who live on milk and the farinacea. It usually comes on in the morning or forenoon, at those times when the stomach is most empty, with a pain and sense of constriction at the pit of the stomach, as if it was drawn backwards. It is increased by an erect posture; is often very violent, and, after some continuance, it brings on an eructation of a thin watery fluid, sometimes acrid, but generally insipid, and in considerable quantity. This rejection of the fluid is reiterated; and though it does not immediately relieve the pain, it at length removes it, and puts an end to the paroxysm.

2. *Causes.*] Its remote causes are cold applied to the extremities, and violent emotions of the mind.

3. *Cure.*] The paroxysms are most certainly relieved by opiates; if these fail, other antispasmodics may be tried, especially the *vitriolic ather*, and the volatile alkali. The *nux vomica* possesses the power of radically curing this disease, in doses from ten grains to a scruple, three times a-day. Several cases have been found to yield to it. No effect has been produced by tonics and astringents in preventing its recurrence.

There are other painful affections of the stomach distinguished by the names of gastrodynia and cardialgia. The former is

known by an acute pungent pain, accompanied with a sense of distension or constriction of the stomach. The latter is attended with an acrid pungent eructation.

They are most frequently symptomatic affections, and are constantly attended upon *dyspepsia*. For gastrodynia, opium is the best remedy; and for the cardialgia, if an acid is prevalent, alkalies and absorbents; and if it is caused by acrid matter, demulcents and mucilaginous medicines. See *CARDIALGIA*.

As a symptom, it will be removed with the primary affection.

In gastrodynia, where the pain is attended with an unpleasant taste in the mouth, disagreeable eructations, and a sense of fulness and distension of the stomach, it proceeds from some foulness in that organ, and will be removed by vomiting and purging, and afterwards strengthening the tone of the stomach by chalybeates, bark, mineral waters, and other tonics, joined with bitters.

In cardialgia, where it proceeds from the prevalence of a strong acid, that must be corrected by antiacids and absorbents, and the means recommended for that purpose in *dyspepsia*. This is sometimes owing to a morbid state of the gastric juice, and sometimes to a deficiency of saliva; when this is the case, the patient should masticate his food extremely well, and eat with it biscuit or crust of bread, which will cause a greater quantity of that fluid to be poured out in mastication, and taken down with the food.

There are other cases of gastrodynia, unattended with any symptom of *dyspepsia*, and which very frequently can be referred to no particular cause. Demulcents and opium, and blisters to the region of the stomach, should be tried, and if they do not remove it, recourse should be had to the cicuta.

(No. 335.) *℞ Succ. spiss. cicutæ ʒij.*

Divide in pilul. xxx. capiat ij.—iv. ad vj. ter die.

If the pain arises from ulceration in the stomach, it will be suspected from the continuance of the disease, from the patient feeling a pungent heat, and great increase of pain after taking food, and from his finding ease from pressure and inclining forward.—Here little can be done but palliate. Demulcents should be frequently taken, and food in small quantities, and that of the mildest kind; and the pain must be quieted by opium, which it will be necessary to give in very large and frequently repeated doses.

The cicuta, with calomel, may be tried in the following form: (No. 336.) *℞ Succ. spiss. cicutæ ʒij.*

Calomel. præp. gr. x. m. f. pil. xxx. sumat unam ter die.

Dr. Hugh Smith observes there are other species of pain, whose seat appears to be in the stomach, which depend upon other and very different causes; and these, for the most part, are either of the spasmodic, rheumatic, gouty, or periodical kinds.

A spasmodic affection is to be remedied by the antispasmodic

medicines, amongst which bark claims the first place. The warm, cordial, and aromatic remedies are likewise extremely advisable. (No. 337.) R̄ Bals. Peruv. (vit. ovi sol.) ʒß.

Aq. fontan. ʒjß.

Tinct. stomach. ʒij.

Conf. cardiac. ʒj.

Syr. bals. ʒjß.

Misce fiat haust. sexta quaque hor. sumendus.

(No. 338.) R̄ Lact. ammoniac. ʒvj.

Sp. vol. foetid. ʒiij.

Misce capiat coch. ij. subinde.

(No. 339.) R̄ Pulv. Flor. chamemæli ʒj.

Pulv. aromatic. ʒß.

Bals. Peruv. q. s. ut ft. Bol. bis terve de die sumendus.

It will be necessary, in all the above cases, to keep the body open, by the warm stomach purges.

GENUS LIX. COLICA.

The COLIC.

Colica, *Sauv.* gen. 204. *Lin.* 50. *Vog.* 160. *Sag.* 162, *Junck.* 106.

Colica spasmodica et flatulenta, *Hoffm.* II. 284.

Rachialgia, *Sauv.* gen. 211. *Cag.* 168.

Ileus, *Sauv.* gen. 252. *Vog.* 162. *Sag.* gen. 187. Iliaca, *Lin.* 185.

Dolor et spasmus iliacus, *Hoffm.* II. 263.

Passio iliaca, *Junck.* 107.

Sp. I. The Spasmodic Colic.

Colica flatulenta, pituitosa, &c. *Sauv.* sp. 1. 2. 5. 6. 7. Ileus phlyodes, volvulus, inflammatorius, &c. *Ejusd.* 1p. 1. 3. 5. 7. 8. 9.

1. *Description.*] The colic is chiefly known by a violent pain in the abdomen, commonly about the umbilical region. The pain resembles various kinds of sensations, as of burning, twisting, boring, a ligature drawn very tight, &c. The belly is generally costive, though sometimes there is a violent evacuation of bilious matter upwards and downwards. In these cases the disease is sometimes accompanied, from the beginning, with a weak, and intermitting pulse, cold sweats and fainting. In some the disease comes on gradually, beginning with an habitual costiveness; and if pur-

atives be taken, they do not operate. The pain comes on generally after a meal, and soon occasions nausea and vomiting. Sometimes the disease is attended with pyrexia, violent thirst, and full pulse; the vomiting becomes more violent, and excrementitious matters are thrown up with the most exquisite pain and tension of the abdomen; an hiccup comes on, which continues obstinately; till at last a cessation of pain and fetid breath indicate mortification of the intestines, and approaching death. Sometimes the peristaltic motion of the intestines is so totally inverted, that all their contents are evacuated by the mouth, and even clysters will be vomited; which constitutes that disease commonly called the *iliac passion*.

2. *Causes, &c.*] Colics may arise from any sudden check given to perspiration, as by violent cold applied to any part of the body, especially to the lower extremities and abdomen. Very frequently they are occasioned by austere, acid, or indigestible aliments taken into the stomach. By any of these, a violent colic, or indeed an iliac passion, may be occasioned; for Dr. Cullen justly observes, that this last, though commonly counted a different species of disease, differs from a colic in no other way than in being in every respect in a much higher degree. In those who have died of this disease and been dissected, the intestines have sometimes been found twisted; but more commonly there hath been an *introsusception* of the intestine, that is, one part of the gut seems to have entered within the other. In the *Edinburgh Medical Essays*, vol. III. we have a dissertation on the use of the warm bath in the bilious colic, in which the author derives the disorder from a spasmodic constriction of the intestine, occasioned by the crimony of the bile. By this, he says, the intestine is not only contracted into an unusual narrowness, but its coats have been bound, upon dissection, so closely joined, that no passage could be made downwards, more than if they had been strongly tied by a ligature. The formation of the *introsusceptio* he explains by quoting a passage from Peyerus, who made the following experiment on a frog: Having irritated the intestine of the animal in several different places, he observed it to contract at those places most violently, and to protrude its contents upwards and downwards wherever the relaxed state of the part would permit; by which means the contents were heaped together in different parts. Hence some parts of the intestine being dilated much more than enough, by reason of the great quantity of matter thrown into them, formed a kind of sack, which readily received the constricted part into it. If this happen in the human body, there is the greatest danger of a mortification; because the part which is constricted, and at any rate disposed to inflammation, has that disposition very much increased by its confinement within the other, and by the pressure of the contents of the alimentary canal from the stomach down-

wards upon it. An iliac passion may also arise from the strangulation of part of the intestine in a hernia; and even a very small portion of it thus strangulated may occasion a fatal event. In the Medical Observations, vol. IV. however, we have an account of an iliac passion arising from a very different cause, which could neither have been suspected nor cured by any other way than the operation of *gastrotomy*, or opening the abdomen of the patient, in order to remove the cause of the disorder. The patient, a woman of about twenty-eight years of age, died, after suffering extreme torture for six days. The body being opened, some quantity of a dirty-coloured fluid was found in the cavity of the abdomen. The jejunum and ilium were greatly distended with air. A portion of the omentum adhered to the mesentery, near that part where the ilium terminates in the cæcum. From this adhesion, which was close to the spine, there ran a ligamentous cord or process, about two inches and a half long, unequally thick, in some places not thicker than a packthread; which, by its other extremity, adhered to the coats of the ilium, about two inches above the cæcum. This cord formed a circle with the mesentery, large enough to admit a hen's egg to pass through it. The cord had formed a noose (in a manner difficult to be explained), which included a doubling of about two inches of the lower end of the ilium; and was drawn so tight, that it not only put a stop to the passage of every thing through the bowels, and brought on a gangrene of the strangulated part, but it had even cut through all the coats of the intestine on the opposite side to the mesentery, and made an aperture about an inch long. In the Memoirs of the Academy of Surgery are mentioned several similar cases.

Dr. Smith says, the *flatulent* and *inflammatory* colic are readily enough to be distinguished from each other:—In the flatulent colic the pain comes on by fits, flies from one part of the bowels to another, and is much abated by a discharge of wind either upwards or downwards; but in the inflammatory colic the pain remains equable, and fixed and settled in one spot; the vomitings are severe and frequently bilious, the belly is obstinately bound, and the pulse always quick and feverish.

3. *Prognosis.*] The colic is never to be reckoned void of danger, as it may unexpectedly terminate in an inflammation and gangrene of the intestines. Those species of it which are attended with purging must be considered as much less dangerous than those in which the vomiting is very violent. The iliac passion, or that attended with the vomiting of fæces, is always to be accounted highly dangerous; but if the passage through the intestines be free, even though their peristaltic motion should be inverted, and clysters evacuated by the mouth, there is much more hope of a cure, than when the belly is obstinately colicive, and there is some fixed obstruction which seems to bid defiance to all remedies,

4. *Cure.*] In the cure of the spasmodic colic, the recovery must ultimately depend on producing a resolution of the spasmodic affection. In order to accomplish this, it is in general necessary to evacuate the contents of the intestines, and to remove morbid irritability existing in that part of the system. But in order to preserve the life of the patient from the most imminent hazard, it is still more necessary to prevent and remove those inflammatory affections which often occur in this disease. As the chief danger in colics arises from an inflammation and consequent mortification of the intestines, it is essentially necessary, in the first place, to diminish the tendency to a pyrexia, if there should happen to be any. This is accomplished by bleeding, emollient injections, warm bathing, and cooling medicines taken inwardly. Dr. Porter, in the essay above mentioned, strongly recommends the warm bath in those colics attended with violent evacuations of bile. He supposes it to do service by relaxing the constriction of the intestines, and thus preventing or removing the intromission. In the mean time opiates may be given to ease the pain, while every method is tried by cathartics and clysters of various kinds, to procure a stool. In obstinate cases, where stimulating cathartics have proved ineffectual, the milder kinds, such as manna, senna, oleum ricini, &c. will succeed.

Dr. Saunders submits (No. 119), (No. 148), and (No. 237), together with the following, to be used as circumstances may require:

(No. 340.) ℞ Lact. assæ foetid. ℥vii.

Tinct. opii ℥j. M.

Pro enemate hora somni injiciatur.

The doctor further observes, that the colic, in *hysterical* cases, often depends so much on spasm and simple irritation, that opiates alone, or united with aromatics, as the *confect. opiat.* do best.

Dr. Smith says, the flatulent or *spasmodic* colic is to be relieved by the warm cathartic and antispasmodic or carminative medicines, and cupping-glasses to the abdomen.

(No. 341.) ℞ Tinct. rhabarb.

Aq. cinnam. ten. aa ℥j.

Tinct. aromatic. ℥j.

Misce fiat Haust.

(No. 342.) ℞ Aq. piment. ℥vj.

Sp. cinnam. ℥ij.

Tinct. foetid. ℥ij.

Syr. papav. err. ℥℞.

Misce sit julep. fumend. coch. iij. subinde.

Sometimes, in an hysterical or hypochondriacal patient, a purging and vomiting will likewise come on; in this case, a warm opiate will answer every intention,

(No. 343.) R Confect. opiat. ℞j.

Rhabarb. gr. vj.

Pulv. aromatic. gr. iij.

Bals. Peruv. q. s. ut. ft. Bol. repetend. ut opus erit.

The colic from irritation may be remedied by gentle cathartics, joined with opiates.

(No. 344.) R Mannæ ℥℥.

Solve in Aq. fontan. ℥j℥.

Adde Ol. amygd. ℥iij.

Tinct. opii gtt. x.

Tinct. aromatic. ℥j.

Misce fiat Haust. sexta quaque hora sumend.

Where every thing of this kind fails, recourse must be had to some of the more extraordinary methods. Some have recommended the swallowing of leaden bullets, on a supposition that, by their weight, they would force through the obstruction into the gut; but these seem much more likely to create than to remove an obstruction. It is impossible they can act by their gravity, because the intestines do not lie in a straight line from the pylorus to the anus; and though this were actually the case, we cannot suppose that the weight of a leaden bullet could prove very efficacious in removing either a spasmodic constriction or an obstruction from any other cause. But when we consider, not only that the intestines consist of a great multitude of folds, but that their peristaltic motion (by which only their contents are forced through them) is inverted, the futility of this remedy must be evident. It might rather be supposed to aggravate the disease; as the lead, by its pressure, would tend to fix the intromission more firmly, or perhaps push it still further on. The same thing may be said of quicksilver; not to mention the pernicious consequences to be apprehended from swallowing large quantities of this mineral, even if it should prove efficacious in relieving the patient for the present. There are, however, some late cases on record, particularly one by Mr. William Perry, published in the sixteenth volume of the Edinburgh Medical Commentaries, in which the hydrargyrus, swallowed in great quantities, was attended with the happiest effects, after every other remedy had been tried.

Another method has been proposed, in the Medical Essays, for relieving the miserable patients in this disorder, which in many cases has been known to do service. The patient is to be taken out of bed, and made to walk about on the cold floor of a damp apartment. At the same time, porringers of cold water are to be dashed on his feet, legs, and thighs; and this must be continued for an hour or longer, if a stool be not procured before that time, though this will generally be the case much sooner. The exercise does not at all impair the patient's strength, but rather adds to it; and some very

remarkable instances are adduced in the sixth volume of the Medical Essays, where this proved effectual after all other medicines had failed. In one person the disease had come on with an habitual costiveness, and he had been for a week tormented with the most violent pain and vomiting, which could be stopped neither by anodynes nor any other medicines; the sharpest clysters being returned unaltered, and all kinds of purgatives being thrown up soon after they were swallowed; but by the above-mentioned method, a stool was procured in thirty-five minutes, and the patient recovered. In some others the costiveness continued for a much longer time. Other remedies are, the blowing air into the intestines by means of a bellows, and the injecting clysters of the smoke of tobacco. But neither of these seem very capable of removing the disease. They can affect only the parts below the obstruction; while, to cure the disease, it is necessary that the obstructed parts themselves should be reached by the medicine, and therefore we have not many well-attested instances of their success. In some obstinate cases, however, benefit has certainly been derived from tobacco smoke injections, and likewise from injections of tepid water to the extent of several pounds. When every other remedy has failed, a *constant stream* of this, thrown up the rectum, has succeeded. For putting in practice those modes of cure, a particular apparatus has been contrived; and in cases even apparently desperate, neither should be neglected. The cold water applied to the skin, gives a general and very considerable shock to the system, checks the perspiration, and thus drives the humours inward upon the intestines, by which they receive a much more effectual stimulus than can be supposed to arise from any kind of clyster. But when all methods have failed, the only chance the patient can have for life is by a surgical operation.

In those colics which are attended with faintings, &c. from the beginning, and which generally attack debilitated persons, all kinds of evacuations are pernicious; and the cure is to be attempted by anodynes and cordials, which will seldom fail of success. Even there also, however, it is necessary that the belly should be moved; and for this purpose, injections, containing a solution of assa-fœtida, which operate powerfully as antispasmodics, are preferable to most other modes of cure.

Sp. II. COLICA PICTONUM. *The Colic of Pictou.*

Rachialgia Pictonum, *Sauv. sp. 1.*

Rachialgia metallica, *Sauv. sp. 3.*

Colica Pictonum *Citessii, et succedentium auctorum.*

Another cause to which violent colics are frequently to be

ascribed, and which often gives occasion to them where it is very little suspected, is lead, or some solution or fume of it, received into the body. To this cause is evidently owing the colics to which plumbers, lead-miners, and smelters of lead, are subject. To the same cause, though not so apparent at first sight, are we to ascribe the *Devonshire colic*, where lead is received into the body dissolved in cyder, the common drink of the inhabitants of that county. This has been proved by experiment; for lead has been extracted from cyder in quantity sufficient to produce pernicious effects on the human body. The *colic of Poitou*, and what is called the *dry belly-ach* in the West Indies, are of the same nature; for which reason we give the following general description of the symptoms of all these diseases.

1. *Description.*] The patient is generally first seized with an acute pain at the pit of the stomach, which extends itself down with griping pains, to the bowels. Soon after there is a distension as with wind; and frequent reachings to vomit, without bringing up any thing but small quantities of bile and phlegm. An obstinate costiveness follows, yet sometimes attended with a tenesmus, and the bowels seem to the patient as if they were drawn up toward the back; at other times they are drawn into hard lumps, or hard rolls, which are plainly perceptible to the hand on the belly, by strong convulsive spasms. Sometimes the coats of the intestine seem to be drawn up from the anus, and down from the pylorus towards the navel. When a stool is procured by artificial means as clysters, &c. the fæces appear in little hard knots, like sheep dung, called *scybalæ*, and are in small quantity. There is, however, usually an obstinate costiveness; the urine is discharged in small quantity, frequently with pain and much difficulty. The pulse is generally low, though sometimes a little quickened by the violence of the pain; but inflammatory symptoms very seldom occur.—The extremities are often cold, and sometimes the violence of the pain causes cold clammy sweats and fainting. The mind is generally much affected, and the spirits are sunk. The disease is often tedious, especially if improperly treated, insomuch that the patient will continue in this miserable state for twenty or thirty days successively; nay, instances have been known of its continuing for six months. In this case, the pains at last become almost intolerable, the patient's breath acquires a strong fetid smell as of excrement from a retention of the fæces, and an absorption of the putrid effluvia from them by the lacteals. At last, when the pain in the bowel begins to abate, a pain comes on in the shoulder-joint and adjoining muscles, with an unusual sensation and tingling along the spinal marrow. This soon extends itself from thence to the nerves of the arms and legs, which become weak; and that weakness increases till the extreme parts become paralytic, with a total loss of motion, though a benumbed sensation often remains. Sometimes

by a sudden metastasis, the brain becomes affected, a stupor and delirium come on, and the nervous system is irritated to such a degree as to produce general convulsions, which are frequently followed by death. At other times the peristaltic motion of the intestines is inverted, and a true iliac passion is produced, which also proves fatal in a short time. Sometimes the paralytic affection of the extremities goes off, and the pain of the bowels returns with its former violence; and on the cessation of the pain in the intestines, the extremities again become paralytic, and thus the pain and palsy will alternate for a very long time.

2. *Cure.*] Various methods have been attempted for removing this terrible disease. The obstinate costiveness which attends it made physicians at first exhibit very strong purgatives and stimulating clysters. But these medicines, by increasing the convulsive spasms of the intestines, were found to be pernicious. Balsam of Peru, by its warm aromatic power, was found to succeed much better; and Dr. Sydenham accordingly prescribed it in the quantity of forty drops twice or thrice a-day taken on sugar. This, with gentle purgatives, opiates, and some drops of the hotter essential oils, continued to be the medicines commonly employed in this disease, till a specific was published by Dr. Lionel Chalmers, of South Carolina. This receipt was purchased by Dr. Chalmers from a family where it had long been kept a secret. The only unusual medicine employed, and on which the efficacy of it chiefly if not wholly depends, is vitriolated copper. It was prepared in the following way:

(No. 345.) \mathcal{R} Cupri vitriolat. gr. viij.

Aquæ distillatæ \mathfrak{z} viij.

Misce fiat solutio.

The dose is a wine-glassful, given fasting, for nine successive mornings. For the first four or five days this medicine discharges much æruginous bile both ways: but the excretions of this humour lessen by degrees; and before the course be ended, it has little other effect than to cause some degree of squeamithness, or promote a few bilious stools, or perhaps may not move the patient at all. At the time of using this medicine, the patients should live upon broth made of lean meat, gruel, or panada: but about the seventh or eighth day, they may be allowed bread and boiled chicken. Here the copper seems to do service by its tonic power; and, for the same reason, alum, recommended by Dr. Percival, most probably cures the disease. He says he has found this very efficacious in obstinate affections of the bowels, and that it generally proves a cure in the slighter cases of the colica pïctonum. It was given to the quantity of fifteen grains every fourth, fifth, or sixth hour; and the third dose seldom failed to mitigate the pain, and sometimes entirely removed it. Among purgative medicines, the *oleum ricini* is found to be the most efficacious. (Vide Form. No. 148.)

Sp. III. The COLIC from *Costiveness*.Colica stercorea, *Sauv.* sp. 3.Ileus a fæcibus induratis, *Sauv.* sp. 2.

The treatment of this species depends merely on removing the cause. (Vide Form. No. 148. 149. &c.)

Sp. IV. The *Accidental Colic*.Colica Japonica,—accidentalis,—lactantium,—a veneno, *Sauv.* sp. 10. 14. 18. 20.Cholera sicca auriginosa a fungis venenatis, *ejusd.* sp. 2.

When colics arise from acrid poisonous matter taken into the stomach, the only cure is either to evacuate the poison itself by vomiting, or to swallow some other substance which may decompose it, and thus render it inactive. The most common and dangerous substances of this kind are corrosive mercury and arsenic. The former is easily decomposed by alkaline salts; and therefore a solution of lixivial salt if swallowed before the poison has time to induce a mortification of the bowels, will prove a certain cure. Much more uncertain, however, is the case when arsenic is swallowed, because there is no certain and speedy solvent of that substance yet known. Milk has been recommended as efficacious; and also a solution of *hepar sulphuris*. The latter may possibly do service, as arsenic unites readily with sulphur, and has its pernicious qualities more obtunded by that than by any other known substance; but, indeed, even the solvent powers of this medicine are so weak, that its effects as well as those of others must be very uncertain.

Some kinds of fungi when swallowed are apt to produce colics attended with stupor, delirium, and convulsions; and the same sometimes happens from eating a large quantity of the *mytilus*, a sort of shell-fish known by the name of muscles. Some of the fungi, doubtless, may have an inherent poisonous quality; but generally they, as well as the muscles, act on a different principle. Their pernicious effects happen most commonly when they are taken on an empty stomach; and are then supposed to be occasioned by their adhering so close to its coats, that it cannot exert its powers, and the whole system is thrown into the utmost disorder. The malady may, therefore, be very easily prevented; but when once it has taken place it cannot be removed, till either a vomiting be excited, or the stomach has recovered itself in such a manner as to throw off the adhering matter spontaneously.

Sp. V. COLIC of *New-born Infants* from a *Retention* of the *Meconium*. (*Sauv.* sp. 19.)

This disorder would be prevented were children allowed immediately to suck their mothers, whose milk at first is purgative. But as this is not commonly done, the child is frequently troubled with colics. The cause, however, may be removed by two or three grains of ipecacuanha, or a drop or two of antimonial wine. By these means the stomach is cleansed by vomiting, and the belly is generally loosened; but if this last effect does not happen, some gentle purge will be necessary, such as syrup of rhubarb, manna, or magnesia. See MIDWIFERY.

Sp. VI. COLIC from a *Callosity* of the *Colon*.

It is in a manner impossible to discover this distemper before the patient's death; and though it should, it does not admit of a cure.

Sp. VII. The COLIC from *Intestinal Calculi*. (*Sauv.* sp. 10. 15.)

When certain indigestible bodies, such as cherry-stones, plum-stones, small pieces of bones, &c. are swallowed, they frequently prove the basis of calculi, formed by an acretion of some kind of earthy matter; and being detained in some of the flexures of the intestines, often occasion very violent colics. These calculi do not discover themselves by any peculiar symptoms, nor do they admit of any particular method of cure. In the Medical Essays we have an instance of colics for six years, occasioned by calculi of this kind. The concretions were at last passed by stool; and their passage was procured by causing the patient to drink a large quantity of warm water, with a view to promote the evacuation of bile, a redundancy of which was supposed to be the cause of her disorder.

GENUS LX. CHOLERA, the CHOLERA MORBUS.

Cholera, *Sauv.* 253. *Lin.* 186. *Vog.* 110. *Sag.* 188. *Hoffm.* II. 165.

Diarrhœa cholericæ, *Junc.* 112.

Sp. I. *The Spontaneous Cholera*, coming on without any manifest cause.

Cholera spontanea, *Sauv.* sp. 1. *Sydenh.* sect. iv. cap. 2.

Cholera Indica, *Sauv.* sp. 7.

Sp. II. *The Accidental Cholera*, from acrid matters taken inwardly.

Cholera crapulosa, Sauv. sp. 11.

Cholera a venenis, Sauv. sp. 4, 5.

1. *Description.*] The cholera shews itself by excessive vomiting and purging of bilious matters, with violent pain, inflation, and distension of the belly. Sometimes the patients fall into universal convulsions; and sometimes they are affected with violent spasms in particular parts of the body. There is a great thirst, a small and unequal pulse, cold sweats, fainting, coldness of the extremities, and hiccough; and death frequently ensues in twenty-four hours.

Dr. Fordyce speaks of this disease in the following way:—When the whole *primæ viæ* are considerably affected at the beginning, sickness, pain, flatulency, and distension of the belly, come on, and are accompanied by frequent vomitings, and painful purging of bile, and of all the other fluids secreted into the intestines, together with the symptoms of irritation, viz. a frequent and sometimes small and unequal pulse, heat, great anxiety and thirst, and after some time cold sweats, and spasmodic contractions of the extremities: the patient sinks sometimes in twenty-four hours, and is not to be recovered.

Those who have been rendered weak or irritable by a hot or long-continued summer, or by living in a warm climate, or in putrid vapour, are peculiarly liable to this disease.

2. *Causes.*] These are cold, or putrid vapour, or it arises as a partial evacuation in fever, or from a purging, from any cause, if it has either continued long, or happened in a habit predisposed; or it begins with phlegmonous inflammation of the intestines.

3. *Cure.*] In this disease, as much bile is deposited in the alimentary canal, particularly in the stomach, the first object is to counteract its influence, and to promote an easy discharge of it. It is next necessary to restrain that increased secretion of bile, by which a fresh deposition in the alimentary canal would otherwise be soon produced. And, in the last place, measures must often be employed to restore a sound condition to the alimentary canal, which is frequently much weakened by the violence of the disease.

On these grounds the cure is effected by giving the patient a large quantity of warm water, or very weak broth, in order to cleanse the stomach of the irritating matter which occasions the disease, and injecting the same by way of clyster, till the pains begin to abate a little. After this, a large dose of opium is to be given in some convenient vehicle, and repeated as there is occasion. But if the vomiting and purging have continued for a long time before the physician be called, immediate recourse must be had to

the laudanum, because the patient will be too much exhausted to bear any further evacuations. Sometimes the propensity to vomit is so strong, that nothing will be retained, and the laudanum itself is thrown up as soon as swallowed. To settle the stomach, Dr. Douglas, in the Medical Essays, recommends a decoction of oat-bread, toasted as brown as coffee; and the decoction itself ought to be of the colour of weak coffee. He says he does not remember that this decoction was ever vomited by any of his patients. An infusion of mint leaves, or good simple mint-water, is also said to be very efficacious in the same case.

The tincture of opium is sometimes retained when given in conjunction with a portion of the vitriolic acid properly diluted. But when it cannot be retained in a fluid form by the aid of any addition, it will sometimes sit upon the stomach when taken in a solid state.

Dr. Fordyce speaks of the treatment thus:—In the cure of *cholera morbus*, if the vomiting, purging, and other symptoms, be very severe, chicken broth without salt, decoction of barley, solution of gum-arabic, or any other mucilaginous fluid, is to be drunk plentifully, to prevent the inflammation from being increased by the efforts, or by the neutral salts in the matter secreted, until the patient is sufficiently reduced to render the exhibition of opium safe. If they be not in so great a degree, a small quantity of antim. tartar. (gr. $\frac{1}{4}$ ad gr. β .) or some other relaxant, may be given dissolved in part of the liquor, and repeated in three or four hours: or, if the vomiting be not very troublesome, from twenty to thirty grains of rhubarb may be taken with advantage, the patient drinking some of the above-mentioned liquors.

When the strength is reduced by the evacuation, and the *primæ viæ* cleared of feculent matter by this treatment, the vomiting and purging may be stopped by opiates, and (No. 33. 90.) may be used; but if the patient should be so much weakened by the evacuation and irritation before any assistance is called in, as to be in danger of sinking, they are to be exhibited immediately. In both cases the opiate is to be repeated in a smaller dose, at six or eight hours' interval, for two or three days, taking care to keep the intestines free from feculent matter, by procuring one evacuation every twenty-four hours, if it does not take place naturally.

After the violence of the disease is overcome, the alimentary canal, and the stomach in particular, requires to be braced and strengthened. With this view, recourse is often had with advantage to different vegetable bitters, particularly to the use of the columbo root; which, while it strengthens the stomach, is also observed to have a remarkable tendency in allaying a disposition to vomiting, which often remains for a considerable time after the

cholera may be said to be overcome. The following formula of Dr. Saunders may be employed:

(No. 346.) \mathcal{R} Colomb. in pulv. trit. gr. x.

Rhabarb. pulv.

Ferri rubigin. sing. gr. v.

Fiat pulvis, vel, syrupo zingiberis, Bolus, bis quotidie capiendus.

Dr. Hugh Smith says, the intentions of cure consist in diluting and expelling the acrid bile, and palliating the most urgent symptoms.

The first intention may be answered by diluting drinks, taken in large quantities; such as a decoction of a crust of bread, water-gruel, chicken or any other thin broth, and the like; and if at the same time vomiting should be excited, the bile may be both diluted and expelled.

To palliate the symptoms, opiates, especially if joined with gentle cathartics, will most avail.

(No. 347) \mathcal{R} Rhabarb. in pulv. trit. gr. x.

Tinct. opii gtt. xx.

Misce fiat bol. repetend. ut opus erit.

(No. 348.) \mathcal{R} Kali præp. \mathfrak{z} j.

Succ. limon. $\mathfrak{z}\mathfrak{ss}$.

Aq. cinnam. \mathfrak{z} j.

Sp. menth. fativ. \mathfrak{z} j.

Tinct. opii gtt. iij.

Misce fiat haust. quarta vel sexta quaque hora sumendus.

GENUS LXI. DIARRHŒA.

LOOSENESS.

Diarrhœa, *Sauv.* gen. 253. *Lin.* 187. *Vog.* 105. *Sag.* gen. 189. *Funk.* 112.

Hepatirrœa, *Sauv.* gen. 246.

Cholerica, *Lin.* 190.

Cœliaca, *Sauv.* gen. 255. *Lin.* 189. *Vog.* 109. *Sag.* gen. 199.

Lienteria, *Sauv.* gen. 256. *Lin.* 188. *Sag.* gen. 191. *Vog.* 108.

Pituitaria, et leucorrhœis, *Vog.* III. 112.

Sp. I. The Feculent DIARRHŒA.

Diarrhœa stercorosaet vulgaris, *Sauv.* sp. 1.2.

This is occasioned by the too great quantity of matter thrown into the alimentary canal; and what is discharged has not the appearance of excrements, but is much whiter, and of a thinner consistence. Voracious people who do not sufficiently chew their food, gormandizers, and even those who stammer in their speech, are said to be liable to this disease. In slighter cases, it is removed without any medicine, or by a dose of rhubarb; but where the matters have acquired a putrid taint, the disorder may be exceedingly protracted, and become dangerous. In this case, lenient and antiseptic purgatives (No. 149.) or (No. 197.) are to be made use of, after which the cure is to be completed by astringents, such as (No. 231.) or (No. 234.)

Sp. II. *The Bilious DIARRHŒA.*

(*Sauv.* sp. 8.)

This disease shews itself by copious stools of a very yellow colour, attended with gripes and heat of the bowels, thirst, bitterness, and dryness of the mouth, yellowness of the tongue; and frequently follows an intermittent or bilious fever. When the fever is gone, the diarrhœa is to be removed by acidulated and cooling drinks, with small doses of nitre. Vide Form. (No. 205) and (No. 268).

Sp. III. *The Mucous DIARRHŒA.*

- Diarrhœa lactentium, *Sauv.* sp. 19.
- Dysenteria Parisiaca, *Sauv.* sp. 3.
- Diarrhœa ab hypercatharsi, *Sauv.* sp. 16.
- Dysenteria a catharticiis, *Sauv.* sp. 12.
- Pituitaria, *Vog.* 111.
- Leucorrhœa, *Vog.* 112.
- Diarrhœa pituitosa, *Sauv.* sp. 4.
- Coeliaca mucosa, *Sauv.* sp. 3.
- Diarrhœa serosa, *Sauv.* sp. 10.
- a. Diarrhœa urinosa.

This kind of diarrhœa, besides the matters usually excreted, is attended with a copious dejection of the mucus of the intestines, with great pain; while the patient daily pines away, but without any fever. Persons of all ages are liable to it, and it comes on usually in the winter-time; but is so obstinate that it will sometimes continue for years. In obstinate loosenesses of this kind, vomits frequently repeated are of the greatest service, and afterwards (No. 228.) It is also very beneficial to keep the body

warm, and rub the belly with stimulating ointments; at the same time that astringent clysters, rhubarb, and stomachic medicines, are to be exhibited. Starch clysters (No. 358.) are very often efficacious. Some kinds of looseness are contagious; and Sir John Pringle mentions a soldier who laboured under an obstinate diarrhœa, who infected all those who used the same privy with himself. In a looseness which frequently followed a dysentery, the same author tells us that he began the cure by giving a vomit of ipecacuanha (No. 2.), after which he put the patients on a course of astringents. He used the following:

(No. 349.) R Extr. ligni Campechen. ℥ij.

Solve in Sp. cinnam. ℥iss.

Adde Tinct. catechu ℥ij.

Aq. distillat. ℥vij. Fiat Mistura.

Of this the patient took two spoonfuls once in four or five hours, and sometimes also an opiate at bed-time. He recommends the same medicine in obstinate diarrhœas of all kinds. A decoction of *simarouba bark* was also found effectual when the dysenteric symptoms were gone off. Dr. Huck, who used this article in North America, also recommends it in diarrhœas.

(No. 350.) R Cort. Simaroub. ℥ij. ad ℥iij.

Coque in aq. font. lib. iis. ad lib. j.

Cola ut fiat decoctio.

The whole of this quantity was taken within the day. He began with the weakest decoction; and when the stomach of the patient could easily bear it, he then ordered the strongest: but at the same time he acknowledges, that unless the sick found themselves sensibly better within three days from the time they began the medicine, they seldom afterwards received any benefit from it. But when all astringents have failed, Sir John Pringle informs us, he hath known a cure effected by a milk and farinaceous diet; and he thinks, in all cases, the disorder would be much more easily removed, if the patients could be prevailed on to abstain entirely from spirituous liquors and animal food. If the milk by itself should turn sour on the stomach, a third part of lime-water may be added. In one case he found a patient receive more benefit from good butter-milk than from sweet-milk. The chief drinks are decoctions of barley, rice, calcined hartshorn (No. 231.), toast and water, or milk and water.

Dr. Hugh Smith describes the cure of the diarrhœa in the following way:

If the disease should be owing to acrid, putrid, or bilious fordes, it will be necessary to expel by the shortest method the irritating fomes. For this purpose, an emetic of ipecacuanha, and afterwards a purgative with rhubarb, will be expedient and advisable.

(No. 351.) R̄ Rhabarb. in pulv. trit. gr. xij.

Pulv. aromatic. gr. iij.

Tinct. opii gtt. xv.

Syr. e cort. aurant. q. s.

Fiat Bolus nocte hora decubitus sumendus.

Vel, (No. 352.) R̄ Tinct. rhabarb.

Aq. cinnam. aa ʒj.

Tinct. opii gtt. xvj. Misce fiat Haustus.

Vel, (No. 353.) R̄ Infus. fennæ, ʒij.

Kali tartar. ʒjss.

Sal. corn. cerv. vol. gr. viij.

Tinct. lavend. comp. ʒj. Misce fiat Haustus.

When a purging succeeds to an obstructed perspiration, the flow of humours should be diverted from the intestines to the skin; the irritation abated, and the mouths of the vessels, which throw out their contents into the intestines, contracted and closed.

Small doses of ipecacuanha given at bed-time, will tend to divert the humours to the skin; and medicines of the opiate, astringent kind, will allay the irritation, and prevent too great a secretion from the exhaling vessels.

(No. 354.) R̄ Pulv. rad. ipecacuanh. gr. ij. ad iiij.

Pulv. aromatic. ʒß.

Syr. e cort. aurant. q. f. M.

Fiat Bolus, omni noct. hor. somni sumendus.

(No. 355.) R̄ Ligni campechens. ras. ʒij.

Coq. ex aq. fontan. q. f. ad colatur. ʒbj.

Adde, Tinct. japonic. ʒj.

Tinct. opii. gtt. xxx.

Syr. e cort. aurant. ʒß. M.

Capiat coch. iv. quarta quaque hora, vel urgente Diarrhœa;

Vel, (No. 356.) R̄ Mist. cret.

Aq. cinnam. ten. aa. ʒiiij.

Elect. e scord. ʒij.

M. capiat coch. iij. pro re nata.

In the *Chronic Diarrhœa*, or purging of long duration, the above method, especially if joined to exercise on horseback, will most frequently relieve. The ipecacuanha bolus above directed will much avail; even the rhubarb bolus will tend to strengthen the intestines, and check the flux.

When the purging is abated, the bark, well guarded with aromatics and opiates, will bid fair to strengthen the habit, and prevent a relapse.

(No. 357.) ℞ Pulv. cinchonæ ʒj.

Aq. cinnam.

Vin. rub. aa ʒj.

Tinct. opii gtt. vij.

Tinct. aromatic.

Syr. croci, aa ʒj.

Misce fiat Haust. ter die sumendus.

Sometimes a diarrhœa is accompanied by a *Tenesmus*, or almost constant indication to stool, in which but little except an acrid mucus is voided. This may be readily relieved by an inviscating and opiate clyster.

(No. 358.) ℞ Amyli, ʒiʒ.

Coque ex aq. fontan. ʒvj. ad gelatin. consistentiam.

Adde, Conf. opiat. ʒij.

Ol. olivæ ʒj.

Misce fiat enema pro re nata injiciend.

The doctor appears to us to have directed opiates in this disease somewhat too liberally. Indeed, as he treats diarrhœa and dysentery in the same chapter, much of his plan of cure may apply more immediately to the latter.

Dr. Temple gives the following account of the treatment of diarrhœa.

The acrid matter is to be evacuated by emetics, which should be frequently repeated, as they not only remove crude acrid matters from the stomach but determine to the skin, and may prove very serviceable by checking and counteracting, in some degree, the increased peristaltic motion.

Laxatives, even of the mildest kind, except at the very first, are generally pernicious; and, after vomiting, it is perhaps always better to give diluents and demulcents. Rice or barley-water, with gum-arabic, for the common drink, are proper.

(No. 359.) ℞ Decoct. verbasco. ʒij.

Extract. glycyrrhiz. ʒj.

M. f. Haust. ʒtia quaque hora sumendus.

Vel, (No. 360.) ℞ Decoct. ulmi inter. ʒij.

Tinct. tolutan.

Syr. tolutan. aa ʒj. M. f. Haustus.

Vel, (No. 361.) ℞ Sperm. ceti (vit. ov. trit.) ʒfs.

Tinct. tolutan.

Syr. ejusdem aa ʒj.

Aq. puræ ʒij. M. f. Haustus.

Vel, (No. 362.) ℞ Sem. lini ʒj.

Extract. glycyrrhiz. ʒfs.

Aq. fervent. lbij.

Macera per horas aliquot et cola, pro potu commune.

The irritability of the intestines will be lessened by adding a

proper quantity of the tinct. opii to the above draughts. In obstinate cases, blistering the abdomen has good effects.

Give absorbents in the following way :

(No. 363.) R Mist. cretac. ʒvj.

Tinct. cinnam. comp. ʒss.

Syr. tolut. ʒij.

M. capt. cochl. iij. amp. ʒtia quaque hora, vel post sing. sedes liquid.

Vel, (No. 364.) R Pulv. e creta comp. cum opio

Confect. opiat. aa gr. xij.

Aq. puræ ʒij.

M. f. Haust. 4ta quaque hora sum.

Detur Decoct. corn. cerv. pro potu ordinario.

The laxity of the intestines must be removed by astringents, or perhaps it would be more accurate to say, give the following medicines to increase the action of the intestinal absorbents :

(No. 365.) R Extract. hæmatox. ʒij.

Aq. puræ ʒvij.

Tinct. catechu ʒij.

Syr. papav. alb. ʒss.

M. capt. cochl. ij. ʒtia quaque hora.

Vel, (No. 366.) R Pulv. rad. tormentill. ʒss.

Mist. cretac. ʒij.

Syr. tolut. ʒj.

M. ft. Haust. ʒtia quaque hora sum.

Vel, (No. 367.) R Alum.

Pulv. cinchonæ aa gr. x.

Mist. cretac. ʒij. M. f. Haust. 4ta quaque hora sum.

Vel, (No. 368.) R Cathecu ʒss.

Aq. puræ ʒxij. coque ad ʒvj.

Stet ut fiat depuratio per subsid. et liquoris partem limpidam caute effunde. Adde.

Aq. cinnamom.

Spt. cinnamom. aa ʒj.

Syr. papav. alb. ʒss.

M. capt. cochl. ij. ʒtia quaque hora.

Vel, (No. 369.) R Gum kino ʒss. ʒtia quaque hora sumend. in quovis vehiculo.

Vel, (No. 370.) R Pulv. cort. Angustur. gr. x. ad ʒj.

Tinct. cinnamom. c. ʒj.

Aq. menth. fativæ ʒij.

M. f. Haust. ter in die sumendus.

Obstructed perspiration must be restored, or promoted, by keeping the body, and the extremities especially, warm, and by giving nauseating doses of antim. tartarif. or ipecac.

Sp. IV. The CÆLIAC PASSION.

Cœlica chylosa, *Sauv.* sp. 1.Cœlica lactea, *Sauv.* sp. 4.

There are very great differences among physicians concerning the nature of this disease. Sauvages says, from Aretæus, it is a chronic flux, in which the aliment is discharged half digested. It is attended with great pains of the stomach, resembling the pricking of pins; rumbling and flatus in the intestines; white stools because deprived of bile, while the patient becomes weak and lean. The disease is tedious, periodical, and difficult to be cured. Sauvages adds, that none of the moderns seem to have observed the disease properly; since the excrements indeed are white, on account of a deficiency of the bile, but the belly is bound as in the jaundice. Dr. Cullen says there is a dejection of a milky liquid of the nature of chyle; but this is treated by Vogel as a vulgar error. He accuses the moderns of copying from Aretæus, who mentions white fæces as a symptom of the disease; from whence authors have readily fallen into the notion that they never appeared of any other colour in persons labouring under the cœliac passion. This error quickly produced another, which has been very generally received; namely, that the chyle was thrown out of the lacteals by reason of some obstruction there, and thus passed along with the excrements; of which he says there is not the least proof, and agrees with Aretæus that the whiteness is only occasioned by the want of bile. He endeavours to prove at length, that the cœliac passion can neither be occasioned by an obstruction of the lacteals, nor of the mesenteric glands; though he owns that such as have died of this disease and were dissected, had obstructions in the mesenteric glands; but he denies that all those in whom such obstructions occur are subject to the *cœliac passion*. He considers the disease as arising from a cachexy of the stomachic and intestinal juices; and directs the cure to be attempted by emetics, purgatives, antiseptics, and tonics, as in other species of diarrhœa.

Sp. V. The LIENTERY.

Lienteria spontanea, *Sauv.* sp. 2.

The lientery, according to Sauvages, differs from the cœliac passion only in being a slighter species of the disease. The aliment passes very quickly through the intestines, with scarce any alteration. The patients do not complain of pain, but are sometimes affected with an intolerable hunger. The cure is to be attempted

by stomachics and tonics, especially the Peruvian bark. This disease is most common at the earlier periods of life; and then rhubarb in small quantities, particularly when combined with magnetia, is often productive of the best effects.

Sp. VI. *The Hepatic FLUX,*

Hepatirrhœa intestinalis, *Sauv.* sp. 2.

The hepatic diarrhœa is by Sauvages described as a flux of bloody ferous matter like the washings of flesh, which percolates through the coats of the intestines by the means of the anastomosing vessels. It is the cœliac passion of Trallianus; and which, according to Sauvages, rarely, if ever, occurs as a primary disease. It has, however, been observed to follow an inflammation of the liver, and then almost always proves fatal.

GENUS LXII. DIABETES,

A profuse discharge of URINE;

Diabetes, *Sauv.* gen. 263. *Lin.* 197. *Vog.* 115: *Sag.* gen. 199. *Funk.* 92. *Dobson*, Med. Observat. Vol. V. p. 298. *Home's* Clinical Experiments, sect. xvi. Diuresis, *Vog.* 114.

Sp. I. The DIABETES with *sweet Urine,*

Diabetes Anglicus, *Sauv.* sp. 2. *Mead*, on Poisons, Essay I. Ejusdem Monita Med. cap. ix. sect. 2. *Dobson* in Lond. Med. Observ. Vol. V. art. 27. *Myers* Diss. inaug. de Diabete, Edin. 1779.

Diabetes febricofus, *Sauv.* sp. 7. *Sydenh.* Ep. resp. ad R. Brady. Diabetes mellitus, *Cull.*

Sp. II. DIABETES with *insipid Urine.*

M. Lister Exerc. Medicin. II. de Diabete.

Diabetes legitimus, *Sauv.* sp. 1. *Aretæus*, de Morb. diuturn. lib. ii. cap. 2.

Diabetes ex vino, *Sauv.* sp. 5. *Ephem. Germ.* D. I. A. II. Observ. 122.

1. *Description.*] The diabetes first shews itself by a dryness of the mouth and thirst, white frothy spittle, and the urine in somewhat larger quantity than usual. A heat begins to be perceived

in the bowels, which at first is a little pungent, and gradually increases. The thirst continues to augment by degrees, and the patient gradually loses the power of retaining his urine for any length of time. It is remarkable, that though the patients drink much, the quantity of urine always exceeds what is drank. In Dr. Home's Clinical Experiments we have an account of two patients labouring under this disease: one of them drank between ten and twelve English pints a-day without being satisfied. The quantity was greater in the forenoon than in the afternoon. In the other the case was reversed. He drank about four pints a-day, and more in the afternoon than the forenoon. The former passed from twelve to fifteen pints of urine in the day; the latter eleven or twelve; so that his urine always exceeded his drink by eight or at least seven pints. When the urine is retained a little while, there is a swelling in the loins, ilia, and testes: in this disease the strength gradually decays; the skin is dry and shrivelled; œdematous swellings arise in various parts of the body, but afterwards subside without relieving the disease in the least; and the patient is frequently carried off by convulsions.

The most singular phenomenon in this disease is, that the urine seems to be entirely or very much divested of an animal nature, and to be largely impregnated with a saccharine salt scarcely distinguishable from that obtained from the sugar-cane. This discovery was first made by Dr. Dobson, of Liverpool, who made some experiments on the urine of a person labouring under a diabetes, who discharged twenty-eight pints of urine every day, taking during the same time from twelve to fourteen pounds of solid and liquid food. Some of this urine being set aside, fell into a spontaneous effervescence, changed first into a vinous liquor, and afterwards into an acetous one, before it became putrid and offensive. Eight ounces of blood taken from the same patient, separated into crassamentum and serum; the latter being sweet to the taste, but less so than the urine. Two quarts of the urine evaporated to dryness, left a white cake weighing four ounces two drachms and two scruples. This cake was granulated, and broke easily between the fingers: it smelled sweet like brown sugar; neither could it by the taste be distinguished from sugar, except that it left a slight sense of coolness on the tongue. The experiment was repeated after the patient was recovered to such a degree as to pass only fourteen pints of urine a-day. There was now a strong urinous smell during the evaporation; and the residuum could not be procured in a solid form, but was blackish, and much resembled very thick treacle. In Dr. Home's patients, the serum of the blood had no preternatural sweetness; in one of them the crassamentum was covered with a thick inflammatory crust. In one of these patients the urine yielded an ounce and a half, and in the other an ounce, of saccharine matter from each pound. It

had, however, an urinous smell, and a saline taste mixed with the sweet one; and the urine of one, fermented, with yeast, we are told, into "tolerable small-beer." Both these patients had a voracious appetite, and perpetual gnawing sense of hunger; as had also Dr. Dobson's patient. The insipid urine of those affected with diabetes has not been examined by physicians with sufficient accuracy to enable us to speak with confidence of its contents.

2. *Causes.*] These are exceedingly obscure and uncertain; passions of the nervous system, debility, and every thing inducing it, but especially strong diuretics and immoderate venery, have been accused as bringing on the diabetes. It has, however, occurred in persons where none of all these causes could be suspected; nor have the best physicians been able to determine it. Dissections have only shewn that the kidneys were in an enlarged and lax state. In one of Dr. Home's patients who died, they smelled sour; which shewed that the urine peculiar to diabetes came from the kidneys, and was not sent directly from the intestines by a retrograde motion of the lymphatics, as some imagine.

3. *Prognosis.*] The diabetes is rarely cured, unless when taken at the very beginning, which is seldom done; and in a confirmed diabetes the prognosis must therefore be unfavourable.

4. *Cure.*] As there is reason to believe that in this affection the morbid secretion of urine, which is both preternatural in point of quantity and of quality, arises from a morbid diminution or tone in the kidney, the great object in the cure must be the restoration of due tone to the secreting vessels of the kidney. But as even this diminished tone would not give rise to the peculiarly vitiated secretion without a morbid sensibility of that organ, it is necessarily a second object to remove this morbid sensibility. But besides this, the morbid secretion of urine may also be counteracted both by a diminution of the determination of fluids to the kidney, and by preventing the occurrence of superfluous water in the general mass of blood.

On these grounds the principal hopes of a cure in this disease are from astringent and strengthening medicines. Dr. Dobson's patient was relieved by the following remedies; which, however, were frequently varied, as none of them produced their good effects for any length of time: the bark in substance, with small doses of rhubarb; decoction of the bark, with the diluted acid of vitriol; the cold infusion of the bark, of which he drank from a quart to two quarts daily; Dover's powder; alum-whey; lime-water; antimonials combined with *tinctura opii*. The warm bath was used occasionally when the skin was remarkably hot and dry, and the patient complained of restlessness and anxiety. The tincture of cantharides was likewise tried; but he could never take more than twenty-five drops for a dose, without perceiving great uneasiness in his bowels. The body was kept constantly open,

either with rhubarb or the infusion of senna joined with rhubarb. His common drinks were rice-water, barley-water, lime-water and milk; lime-water alone; sage, balm, or mint-tea; small beer, simple water, and water acidulated with the vitriolic acid. In seven months these remedies, in whatever manner varied, made no further progress in removing the disease. In Dr. Home's patients, all these medicines, and many others, were tried without the least good effect; inasmuch that he uses this remarkable expression: "Thus, these two patients have exhausted all the experience had ever recommended, and almost all that theory could suggest; yet, in both cases, the disease has resisted all the means of cure used." It is remarkable, that though the septics were given to both, in such quantity as evidently to produce putrescency in the *primæ viæ*, the urine remained unaltered both in quantity and quality.

Although this disease be frequently in its nature so obstinate as to resist every mode of cure, yet there can be no doubt that particular remedies have succeeded in different cases. Dr. Brisbane relates several cases cured by the use of tincture of cantharides and Dr. McCormick has related some in the 9th volume of the Edinburgh Medical Commentaries, which yielded to Dover's powder after a variety of other remedies had been tried in vain.

But an improvement of great magnitude has of late been suggested by Dr. Rollo, surgeon-general of the Royal Artillery who in a treatise on the *Diabetes mellitus*, worthy the perusal of every medical man, recommends a *total abstinence from vegetable food*, together with the exhibition of such remedies as counteract the formation of *saccharine matter* in the body, as the most rational system to be pursued. He supports his opinion by various well-attested facts, and relates some very judicious and accurate chemical experiments, instituted to illustrate the subject. Dr. Rollo concludes this part with the following result: "1. That sugar consists of carbon, hydrogen, and oxygen; and may be considered as a pure vegetable oxide; 2d. That sugar of milk is composed of the same principle, but contains more oxygen, and considerably less charcoal; 3d. That gum differs from sugar, in containing, besides carbon, hydrogen, and oxygen, both lime and azote; 4th. That vegetable farina cannot be converted into saccharine matter, without the joint action of oxygen and water, the first of which appears to be absorbed, and the last decomposed during this process; 5th. That when sugar is deprived of its oxygen, or combined with other substances, it loses its characteristic properties, and is no longer susceptible of the vinous fermentation; 6th. That neither vegetable nor animal mucilages, in their pure state, are susceptible of this process.

From a review of the whole, the propriety of the different medicines which the doctor recommends to be employed in

betes, must be obvious; more particularly the pure alkalies, sea-water, and the different sulphurates, all of which counteract the formation of saccharine matter in the stomach.—We also readily see the necessity of a diet, consisting entirely of animal food, being the only one which does not furnish oxygene, and is a peculiar but simple combination of carbone and hydrogene, constituting the basis of sugar, and without which it cannot be produced.

Many impartial practitioners have adduced instances in proof of the excellence of this practice, whilst others who appear to have given it a fair trial are inclined to reject it. We shall endeavour to afford the reader a fair opportunity of judging for himself, by submitting to his consideration some of the accounts that have been given in the Medical and Physical Journal.

A case of the diabetes mellitus, which terminated in a complete, and, as far as can be judged from apparent circumstances, permanent cure, by medicines abstracting oxygene from the system, and a diet consisting totally of animal matter, is related by Dr. Redfearn, of Lynn Regis.

“After perusing the first edition of Dr. Rollo’s publication on the diabetes mellitus,” says the author, “Mr. Spurgin, a respectable farmer at Docking in this county, came to consult me, about the beginning of the year 1789, in a case of this disorder, which he had laboured under for near two years. It instantly occurred to my mind, that the nature of his disorder would afford a fair opportunity of trying the method recommended by Dr. Rollo, for treating this obstinate and troublesome disease. I therefore suggested to him the propriety, and absolute necessity, of abstaining rigidly from all fermented liquors and vegetables, with every thing else that could impart oxygene to the system by the primæ viæ; and at the same time ordered that his diet should consist principally of fat beef, pork, and such aliments as were of a gross or unctuous quality, and most likely to produce hydrogene in the greatest abundance. My patient, dejected by a long and painful affliction, and extremely anxious to recover, complied with every prescription, whether in a dietetic or medicinal point of view, with the strictest care and attention; declaring that the most nauseous medicines could not shake his resolution to persevere in any course of physic, or regimen, which might be adopted towards his recovery. Deeply affected by his sufferings, and desirous of contributing to his relief, I began with prescribing to him, when thirsty, to drink very weak brandy and water, with ten or twelve drops of the hepatised ammonia, a bottle of which he was furnished with, prepared as directed by Mr. Cruickshank, in Dr. Rollo’s publication. This he was desired to augment gradually, as his stomach became habituated to its stimulus; and the following medicines were administered —

(No. 371.) ℞ Pulveris cinchonæ rub. ʒi.

Aluminis usti ʒiij.

Kali præparati ʒij.

Petrælei sulphurati q. s.

Misce, fiat elect. de quo capiat quant. nucis moschatæ ter i die, horis duabus ante et post prandium; et hora septimâ vespertinâ superbib. cyathum misturæ sequentis:

(No. 372.) ℞ Aquæ calcis ʒxvj.

Kali sulphurati ʒiij.

Misce fiat mistura.

(No. 373.) ℞ Natron præparati lenè calcinati ʒi.

Saponis albi Hispanici ʒiv.

Mucilaginis gummi Arabici q. f.

Misce, fiant pilulæ triginta, quarum capiat quatuor singulis nocte.

“It would be altogether superfluous, and perhaps impossible to enumerate the various diagnostics concomitant on this disease in different subjects. The most prominent symptoms, that attended my patient, I shall, however, briefly recount, viz. an intolerable thirst; parched skin; tongue whitish, and moist on its exterior surface, but reddish on the external edges; saliva white, frothy, and extremely viscid, so as to render expectoration very difficult; the profluvium urinæ limpid, and of a saccharine quality, and voided upon an average to the quantity of six or seven quarts in the course of twenty-four hours. The wasting of the muscular parts had been gradual from the very first commencement of the disease; and from a corpulent habit he was reduced to a state bordering upon emaciation.

“After this patient had persevered in the above medicines and regimen during a fortnight only, he found his thirst by no means so excessive. The quantity of his urine was considerably diminished, and became also of a quality more urinous, and less sweet. His amendment continued to be progressive, without feeling any interruption, either from natural or adventitious causes; and he was completely free from every symptom of the disease in less than three months after the medicines were first administered. He never once deviated from the regimen prescribed; nor omitted taking his medicines regularly, although they were extremely unpleasant. The hepated ammonia was increased to thirty or forty drops at a dose, without his experiencing any disagreeable effects from it, and he took of the article alone, nearly ten ounces.

“My patient has now continued perfectly well for more than eight months, nor has he taken any medicines since, except half pint of Schweppe's double acidulated soda water, occasionally prescribed, with a little brandy, by way of beverage: and although he has indulged several times in fermented liquor during

that period, no relapse has ensued from such indulgence; and to my enquiries, very lately, he declared, that he never enjoyed a better state of health than he does at this moment.

“The kali sulphuratum, or sulphuret of pot-ash, should be carefully inspected by the faculty, when administered as a medicine; because, when recently prepared, it is extremely caustic by the disengagement of the carbonic acid from the pot-ash, during the process of preparing it. In this state, more moderate doses should be made use of; but when it has regained this æriform elastic fluid (the deprivation of which constituted its causticity), as it frequently does in the dispensaries, by an exposure to the atmospheric air, or for want of proper caution in being secured from its contact; whenever this happens, I have always found its exhibition of little avail, either in the diabetes, or in the removal or prevention of pytalism excited by mercury.”

Many other instances of the success of this practice might be transcribed, but it would extend this part of our work too considerably; we refer for further testimonies to the printed works already mentioned; and shall now give an extract from the account of diabetes and its treatment given by Dr. Lubbock of Norwich.

“In the full and ingenious publication of Dr. Rollo,” says Dr. Lubbock, “a mode of treatment, said to be efficient in diabetes, has been given to the medical world; but I think, in the subsequent observations, it will appear, that this mode has proved unsuccessful in many cases, although its application has been conducted with candour, and carried on with perseverance.

“I shall proceed therefore to detail the history of some cases of this disease, which were taken into the Norfolk and Norwich hospitals, the event of which, it would seem, has been unfavourable to Dr. Rollo’s theory and treatment of it. And from the observation which I have been able to make upon this disease, I think I am warranted in saying, that a leaning towards what is marvellous has pervaded, and in some measure distorted, the history of its symptoms and phenomena from the earliest times.

“Thomas Smith, æt. 39, by trade a shoemaker, was admitted into the hospital, Dec. 21, 1799; he complained of an emaciation, which, he said, had commenced about two years, and which had increased more particularly during the last twelve months. From his shrinking, the outlines of the face had become so strong and prominent, as to convey to the most common observer an idea of great disease. His skin was harsh and dry, and apparently altogether impervious to the perspirable fluids; he complained of great thirst, and of a sensation of heat about the stomach; and upon enquiring, said he made a large quantity of urine. His appetite was good, and the abdomen was somewhat enlarged, but there was no particular irregularity of stools.—He had no affection of the prepuce, but complained of weakness

of the loins; his sight was also weak, and the verge of the eye-lids was red and slightly inflamed, and the gums were spongy and ulcerated. He had no particular pains. From the emaciation, the direction of the muscles and the course of the veins over the whole surface of the body were so distinct as to denote the total absence of fatty matter. But notwithstanding this appearance of disease, he possessed considerable muscular power (a circumstance peculiar almost to diabetic macies), and had been able to work at his business. His mode of living had not been marked by great intemperance, and he had only lately, from thirst, indulged in a freer use of malt liquor and other liquids. Having seen him a week previous to his admission into the hospital, I desired him, during that interval, at different times, to measure the quantity of urine passed in twenty-four hours, and he found it vary from twenty-nine to thirty-one pints. After his admission, his urine was regularly collected, and measured in the presence of the house apothecary, every twenty-four hours, beginning from Sunday noon, Dec. 22. The following table will exhibit the quantity of urine passed daily, for the first few days; but a daily report being tedious and unnecessary, afterwards the greatest and smallest quantities passed during longer intervals are only noted. The figures above the line denote the dates; below the line, the quantity of urine passed. There will also be found subjoined, tables of the urine passed by two other diabetic patients. Of Richard Foster, æt. 37, by trade a carpenter, who was admitted into the hospital, January 26, 1800, and who previously passed about 12 pints of urine daily;—of James Brown, æt. 43, by trade a weaver, admitted April 6, 1799, who passed from ten to fourteen pints daily, previous to admission.

SMITH.

Urine passed in 24 hours previous to admission.	Dec. 22 to 23	24	25	26	27	28 to 31	Jan. 1 to 31	Feb. 1 to 28	Mar. 1 to 24
Pints 29 to 31	18	13 $\frac{1}{2}$	9 $\frac{1}{2}$	8	6	5	4 $\frac{1}{4}$ to 4	4 $\frac{1}{2}$ to 4	4 $\frac{1}{2}$ to 4

FOSTER.

Urine passed in 24 hours previous to admission.	Jan. 26 to 27	28	29	30	31	Feb. 1 to 28	Mar. 1 to
Pints 12	9 $\frac{1}{2}$	8 $\frac{1}{2}$	8	8	7	6 to 4 $\frac{1}{2}$	5 to 8 $\frac{1}{2}$

BROWNE.

Urine passed in 24 hours previous to admission.	April 6 to 7	8	9	10	11	12 to 30	May 1 to 26
Pints 10 to 14	6	5½	4½	5	4½	3½ to 1½	3 to 2

Of these patients, two were of what is termed the sanguine temperament, having fair complexions and light hair; the third was somewhat florid, but had dark hair. I have mentioned the particulars of Smith's symptoms, his case being the more strongly marked; and as the symptoms of the other two cases differed from his only in degree, excepting that Brown's prepuce was affected with phymosis, and Foster's gums were not affected, I was of opinion any detail would be useless. It should be observed, that the urine of all these patients was whey-coloured, sweet to the taste, and had a violet smell.

"The same plan of diet was pursued by all these patients; they were all allowed four pints of liquid daily, consisting of two pints of milk, and of two pints of meat decoction, for the most part beef, without any oatmeal or vegetable matter, and they had meat twice daily, viz. for dinner, and a smaller portion for supper. Bread and beer and every article of vegetable preparation were prohibited, and I have the greatest reason to suppose these regulations were strictly adhered to. It must be observed, the milk and meat decoction were measured with a common tin beer measure, and the measure by which the urine discharged was estimated was apothecary's measure; and, upon a comparison, I found the pint beer measure used, contained an ounce and a half more than the apothecary's pint, so that the four pints of liquid daily taken, would exceed in quantity four apothecary's pints of urine discharged by six ounces, or be equal to four pints six ounces; and it must also be recollected, in addition to the four pints taken, that these patients daily took from six to eight ounces of water, as a vehicle to the medicines which were thought necessary, so that the sum of the liquid daily taken may be said to be nearly equal to five pints, apothecary's measure.

"The medicines taken were kali præparatum, natron præparatum, aqua ammoniæ puræ, kali sulphurat. ammonia hepatizat. ferrum ammoniacale, &c. and they were given in full doses, and for the most part under the inspection of the apothecary.

"This detail being premised, I shall proceed to offer a few remarks, naturally arising during the treatment of these cases, which, if well founded, may, by an application to Diabetes in general, afford us more precise and accurate notions of it.

“ The circumstance more immediately and strongly assailing the attention, after the admission of these patients into the hospital, was the immediate and sudden reduction of the urine, which, as may be seen from the annexed tables, took place in a very few days, and in a degree so as not to exceed the quantity of liquid taken. This change taking place so rapidly, and before the quality of the diet ordered, or the effects of the medicines prescribed, could have influenced the system, awakened in my mind no small doubt of the truth of a proposition concerning this disease, which has been universally admitted as true, from the time of Aretæus to the present day; viz. that in this disease, the discharge of urine, in any given time, exceeds the liquid taken in the same time. The facts arising from the cases above stated, tend in my mind to weaken the truth of this proposition, by shewing, that the quantity of urine passed bears a more direct ratio to the quantity of liquid taken, and by no means exceeds it. That this is the case, I infer from the fore-mentioned tables; and from our ignorance of any process or law of the animal economy, by which the liquid taken can, as such, be augmented in quantity; and lastly, from the various modes of treatment and theories of this disease, which have been fostered by the imagination, with the sole view of preventing and explaining this multiplying process.

“ On this subject physiology affords us no assistance, and accurate observation tells us, that the basis of all the liquids either remaining in, or discharged from, the animal machine, must have been received from without; and an attention to the foregoing tables will shew, that after the first few days, the urine daily discharged, continued, for weeks and months, to be less than the liquids taken.

“ From these facts and reflections, I am induced to deny that part of the history of this disease, that says the quantity of urine passed in a given time, surpasses the liquid taken.

“ And in carrying our enquiries further, and to the origin of this supposition, it is rendered probable that it commenced in the observations, either made by Aretæus himself, or received by him from others; he having expressly and in terms said, “ that the quantity of liquid taken is not equal to the quantity of urine, for that there is more urine passed.” I am fully aware, that Aretæus is ever quoted as a model of precision and accuracy in the detail of his history of diseases, and to doubt what antiquity has sanctioned, and habit has confirmed, may be thought a bold, perhaps an invidious undertaking; yet, I hope I shall not be charged with want of candour, when I say, from a review of the history of Diabetes, as delivered by this author, that it is more than probable his wonted judgment has not been exercised

in the detail of its symptoms, either from the little opportunity which he had of seeing it, or from seeing it with a mind benumbed by the impulse of astonishment. That such is the case, his first remark will evince, in which he says, 'that a wonderful phenomenon is the affection of Diabetes, and very rarely happening to man.' And afterwards, in explaining more particularly the causes of this disease, and considering it 'as a deliquescence or conversion of the solids into a liquid form,' it would seem, that Aretæus found, to account for, and get rid of the solids so converted into liquid, a second supposition was essentially necessary, giving origin to the opinion in question, "that the liquid discharged by urine exceeded the liquor ingesta."—This seems to me the origin of an error in the history of this disease; and to this source the fanciful detail of cases, the strange perverted relations in the collections of Schenklius, as well as of others, may be truly traced.

"If, however, it be proved, that the urine discharged does not exceed in quantity the liquid taken, an important conclusion readily presents itself to the mind, which is, that the emaciation taking place in this disease does not arise from any loss sustained by an undue or increased quantity of urine beyond the liquid taken; and therefore some other cause is necessary to the explaining this phenomenon. On the same ground it may be observed, that the modes of treatment, instituted solely with a reference to the increased quantity of urine, are erroneous; and as such, the rubbing the surface with oil or unctuous substances, to preclude absorption from the atmosphere, is unnecessary, and inefficient, as resulting from a principle false and imaginary. Neither, to explain this surplus of urine, is the ingenious conjecture of Dr. Rutherford better founded, constituting the lungs an elaboratory of water, and giving them the function of forming water, by the union of the hydrogen of the blood with the oxygen of the atmosphere. And having rendered it improbable that the emaciation of Diabetes is connected with the quantity of urine discharged, I shall proceed to consider the quality of diabetic urine as marked by a saccharine or honied taste. This quality, observed first by Willis, has attracted the attention of later authors, and more particularly of Dobson and Rollo, who finding that a greater quantity of extractive matter is produced by evaporation, from a given quantity of diabetic than from the same quantity of healthy urine, have considered this saccharine product as a probable cause of diabetic emaciation. But it maybe doubted, and perhaps with justice, whether the increased portion of saccharine extract in diabetic urine, be a cause adequate to the explanation of the state of shrinking, and whether it be not rather an effect or coincidence than a cause.—In determining this question, it will be necessary,

1st. "To compare the extractive matter produced, by evaporating equal quantities of diabetic and of healthy urine.

2d. "To compare the quantity of extractive matter obtained from a given quantity of diabetic urine, with the extractive matter contained in the same quantity of liquid taken. And,

Lastly, "To determine if the concurrence of any other causes may not contribute to the increase of extractive matter in diabetic urine, without supposing that the destruction of the solids contributes to such increase.

"With a view to the determination of this question, a pint of Smith's urine was evaporated, at four different times, and the extractive matter was carefully collected; viz. a pint was evaporated immediately upon his admission into the hospital, at the period when he was passing about thirty pints of urine daily, and, as near as may be, an ounce of saccharine extract was produced. In about a week, or as soon as the urine was reduced to the limited quantity of liquid ordained, another pint was evaporated, yielding of extract fourteen drachms. In a month or five weeks after the adoption of his curative plan, a third pint gave only six drachms of extract; and about a week before his discharge, another pint gave about an ounce of extract.

"To explain the fourteen drachms of extract found in evaporating the second pint, it may be observed, that this experiment took place as soon as the urine passed was reduced so as not to exceed the quantity of liquid daily ordered, and therefore it was probable that all the extractive matter contained in the greater quantity of liquid taken, previous to his admission, when he indulged his thirst (not to notice the solid), was not yet eliminated from the system; so that the liquids taken, being abridged to a given and much smaller quantity, there was found, for a short interval, in every pint of urine, a greater and unusual proportion of extractive matter. This explanation being admitted, it will appear, that the extract of Smith's urine, accurately speaking, varied only from an ounce to six drachms.

"To find the difference between this quantity of extract and that found in healthy urine, five pints of urine taken from healthy persons were cautiously and separately evaporated, and it was found the extract produced, varied from half an ounce to rather more than six drachms for each pint. Hence then it would appear, that the difference of the extractive products of healthy and diabetic urine is not so great as to afford a probable cause of the emaciation in diabetes;—and this will appear more fully hereafter.

"But, in speaking upon this subject, permit me to say, that a singular concurrence of events, but remotely connected, has caught my attention in this disease; I refer to the constant coincidence of the parched and unperfuming skin with the saccha-

rine quality of the urine: this concurrence has induced me, at times, to believe that in this disease the want of perspiration, or of the excretion from the surface, was connected with the saccharine quality of the urine; and this belief has received further support from an examination of the nature of the perspirable fluids, and of the component parts of saccharine matter. It has been proved that sugar is, for the most part, composed of carbon, oxygen, and hydrogen, united in a certain ratio; and it appears, by the experiments of Cruikshank and Abernethy, that, besides the occasional aqueous fluid discharged daily from the surface of the body, about three gallons of carbonic acid are also lost to the system by the perspirable matter. Now supposing, as happens in diabetes, this perspirable excretion, or carbonic acid, is suppressed and retained in the system, it is probable that the carbon and oxygen of the acid so retained, by entering into a due combination with some portion of the hydrogen of the animal body, may tend to the production of the saccharine matter of the urine; and as the carbonic acid is the general product of the vegetable world, it would follow, that its retention, in the animal body, may produce the phenomena of the defective animalization, characterising diabetes, as exhibited in the formation of sugar.

“ Thus, in the preceding remarks, have I attempted, and I trust with impartiality, to invalidate certain data concerning the history and theory of diabetes; I have attempted to disprove the generally received notion, that in diabetes the urine is discharged in a greater ratio than the liquid taken; and I also trust I have rendered it improbable that the quality or quantity of the extractive matter discharged by urine, is a principal cause of the emaciation; having shewn that such extract may more justly be referred to that contained in the liquid and solids taken into the body; and having made it probable that its saccharine quality may depend upon, or be connected with, the suppressed perspirable matter. Hence then it is evident, that any mode of cure, or plan of treatment, instituted solely with a reference to the increased quantity or altered quality of the urine, must be defective and unsuccessful; and, therefore, proceeding upon these erroneous principles, it will cease to be a matter of surprise, that, in the above cases, I should have adopted the suggestions of Dr. Rollo, without the advantages I had been taught to expect. In the three cases given above, a diet consisting solely of animal food, with the free and full use of the different alkaline medicines, including a liberal use of hepatised ammonia, effected little or no change in the general health.—And in Smith’s case, although these regulations of diet and medicine were rigorously attended to, I cannot say that any great or observable change was induced in the quality of the urine, which seemed, in a great measure, to retain its saccharine taste and violet smell. And in

this case, supposing that the milk taken might keep up these appearances, instead of the two pints of milk two additional pints of strong meat decoction were substituted, so that nothing but highly animalised food was taken; and under this plan he remained some weeks, but without any real advantage. At length, after a due perseverance, and becoming tired of the little variation of his food, his diet was ordered, on a sudden, and without any gradation, to be changed to the common hospital diet, consisting of bread, vegetables, meat, malt liquor, and milk pottage, adhering however to the taking, in liquids, only four pints daily. By this alteration of the nature of the liquids and solids taken, no marked change in the quantity or quality of the urine was induced, and he remained in the hospital some time without any change in the urinary discharge.

“ But it may be said, that this patient had been in the use of an animal food so long, that his system was rendered proof against the influence of vegetable or mixed diet, as shewn by increasing the quantity or the saccharine quality of the urine;—in answer to which, it must be permitted me to remark, that Foster, another patient, had been, at the time in which Smith’s diet was changed, only about a fortnight in the hospital, and had only for that time pursued the animal diet and alkaline medicines, and the urine discharged was in the ratio of four or five pints of the liquids taken, as the table will shew; and to determine what change would be induced in the urine discharged after so limited an use of animal food and alkalies, he was also ordered, on a sudden, to take the usual diet of the house, consisting of vegetables, bread, malt liquor, meat, &c. but, on a cautious enquiry, it did not appear that the urine was increased in quantity; and in quality, so far from exhibiting a more wheyish or saccharine appearance, it was evidently, for some days, of a higher or more amber colour.

“ After this statement, the power of a vegetable or mixed diet, in re-producing diabetes, by increasing the quantity or altering the quality of the urine, may with reason be doubted.

“ In the treatment of diabetes, patients are led, by the attention given by medical men to the quantity and quality of the urine, to suppose the sole cause of their disease to be connected with the state of the urine; and, therefore, whenever either the quantity of urine is observed to be reduced to the natural quantity, or the quality of the urine is deemed more favourable, they fall into the greatest delusion respecting their general health, by asserting in terms that they are becoming well, or free from disease, although, at the same time, the degree of emaciation is evidently growing worse and advancing. This delusion was strongly exemplified in the three cases before mentioned, their language being, from the decrease of their urine, that they had

lost their disease, although at the time they were gradually losing flesh; and it is not to be doubted, but that, at no distant period, they will fall victims to the emaciation. And to the same end, it may be observed, in the various cases reported in the accurate publication of Dr. Rollo, that very few, if any, excepting Capt. Meredith, seem to have regained their flesh, although, from the urine being in quantity abridged by an abridgment of the liquids taken, they were deemed to be cured. This continuance of the emaciation may be remarked in the case of Clarke, so accurately reported by Dr. Gerard; for this patient's urine being reduced, he was discharged as cured by his physician, even at a time when his emaciation was stationary, or even increasing; for being weighed upon the day of admission into the Liverpool hospital, and upon the day of his discharge, it was found his weight had decreased one pound. And the continuance of the macies in the cases so well described by Dr. Cleghorn, and in the other cases reported in Dr. Rollo's book, proves the diseased state to have been unaltered, and to have resisted the curative means made use of. And I have no hesitation in saying, that it is probable, since the appearance of Dr. Rollo's book, containing those cases, many of them are suffering from greater emaciation, or may have paid the debt of Nature: and it would be an useful document to lay before the public, could Dr. Rollo procure from his correspondents the particulars of every case that he has printed, shewing their subsequent progress; by which it might be known in what degree we may expect a fatal or salutary termination of this disease.

“ From all that has been said, it would seem, that the leading circumstance in diabetes is the macies, which, from the experience which I have had of this disease, frequently comes on slowly and tacitly, the subjects of it not perceiving or not feeling much deviation from health: in this way I have known persons for three or four years affected with diabetes, but possessing a degree of strength equal to the various exertions of pleasure or of business; and under this degree of diabetes, I have, at this time, two patients, who, excepting a slight and very gradual wasting of the body, some increase of thirst, with occasional uneasy sensations about the stomach, to which may be added, febleness of sight at times, and an habitual tendency to phymosis, possess that degree of apparent health and strength that would mislead a common observer. And to treat patients with so slight a deviation from health, it must be allowed, is an arduous and difficult enterprise; plans of diet may be prescribed, and medicines may be ordered, and the nature of their complaint may be duly pointed out to them, yet irregularity in their application will necessarily occur, and a frequent violation of all the necessary salutary proceedings will take place; and, perhaps, from this

cause it has happened, that I have not found even this incipient state of macies in diabetes removed; and when it is more advanced, I have never seen it yield to any curative measures, but it has continued to increase more and more, till after a lingering and protracted wasting of the solids, the unhappy sufferer sometimes displaying a countenance the most hollow and haggard, with the different members, as it were, barely enveloped with the skin, at other times presenting an aspect bloated with anasarcaous swellings, sinks gradually into the arms of death. And, as has been before observed, in this disease considerable muscular power remains with great emaciation; and this circumstance, I believe, has led very judicious practitioners to conclude, that diabetic patients have been materially relieved by certain curative means. But it is the emaciation that claims the first attention of the physician, for, without the removal of this symptom, neither the reduction of the urine, the alteration of its quality, nor the appearance of considerable remaining muscular power, will prove that the disease has yielded to any curative process.

“ These observations may have been lengthened beyond the limits intended; should they, however, in any degree tend to convey to the mind, notions more accurate of the nature and treatment of diabetes, my principal object, the promotion of medical science, will be attained. And I shall now only subjoin a few general conclusions; and,

1st. “ From what has been said, it would seem, that in the nosological arrangement of diabetes, authors have materially erred, as it should neither be classed with Cullen among the spasmi, nor with Sauvages and others among the fluxus and profluvia; according to Cullen’s arrangement, it should fall under the class cachexia, and in the order marcores; and were I asked to give a definition of it, I should give the following, keeping in mind the conjecture of the connection of the retention of perspiration with the saccharine quality of the urine, as cause and effect: I should define it,

“ Macies (anidrotica) cum cute non perspirante, cum urina mellita, et plerumque multa ex multo potu, et haud raro cum palpebris, præputio et gingivis inflammatis.

“ And as from experience it would seem that this species of macies has hitherto admitted of no substantial relief from medical treatment, I am disposed to consider it, with Selle and Neitzkius, as a disease of the lymphatic system. It must be understood, that I am here speaking of what may be termed idiopathic diabetes, and not of that species which Sydenham and others have mentioned as supervening as a symptom or sequela of acute disease, and which is of short duration.

2d. “ It is proved, that in diabetes the urine discharged is in a direct ratio of the liquids taken; so that in the cases reported

By Dr. Rollo, it would seem, as the macies remained unaltered, that all that was effected by the curative plan was, by abridging the quantity of liquid taken to abridge the urine discharged.

3dly. "And if the urine discharged follows the liquid taken, it is evident the various alkaline preparations cannot influence the quantity of the urine; and from what has been said, it may be much doubted, whether the quality of the urine is materially affected by them.

Lastly. "The occurrence of phymosis has been mentioned by my friend, Dr. Girdlestone, as a constant or pathognomonic symptom of this disease; but I find this symptom is dependent upon the formation of the prepuce, for in Smith and Foster, the worst cases which I have met with, this symptom was absent. This symptom has, however, taken place in four other cases which have fallen to my care, two of which possessed so much apparent health, that the obstinacy of this symptom afforded a clue to the unravelling of the nature of the complaint.

"And in treating of the extractive matter of diabetes, authors seem to have confined their attention to the condition of the urine, or of the liquid discharged, considering such matter as derivable solely from the system, without carrying their thoughts to the examination of the extractive matter contained in the liquid received and taken into the body. Hence, if Smith passed thirty pints of urine daily, each pint yielding an ounce of extract, it would seem as if they concluded, that thirty ounces of extractive matter were taken from the system daily. But let it be remembered, that this man took daily thirty pints of liquid, consisting of porter and other malt liquor; of milk, water, &c.; and that his appetite being good, he took freely of bread, meat, vegetables, &c.: then such liquids and solids will readily afford a cause adequate to the production of the thirty ounces of extractive matter contained in the thirty pints of urine passed.

"Hence it is probable the quality of the urine is not the cause of the shrinking, for the origin of the extractive matter found in the urine may be referred to that taken in by the liquids and solids, without recurring to any loss sustained by the solid compages of the body and its consequent emaciation.

"Further, these arguments against the saccharine matter as a cause of the shrinking in diabetes, will receive considerable accession of strength, from a comparison of the nature and quantity of the liquids and solids taken daily by Smith after he had been in the hospital some time, with the quantity of extractive matter discharged by urine daily. In this case, two pints of good milk, and two pints of strong meat decoction, were daily taken; and also for dinner, not less than from six to eight ounces of boiled beef or mutton; and for supper, not less than from three to four ounces of the same meat were allowed. And after he

had used this plan for some time, it was found by experiment, he discharged daily from four pints to four pints and a half of urine each pint yielding only six drachms of extract; so that, in twenty-four hours, little more than three ounces of extractive matter were discharged, a quantity which by no means equalled the extractive matter contained in the milk and the liquids taken daily; and therefore some portion of the extractive matter of the liquids, and the whole of the solids, might have been added to the system, and might, notwithstanding the discharge by urine seemingly, have answered all the purposes of nutrition, and might, of course, have acted as a barrier to the increase of emaciation.

“And, moreover, that the loss of substance in diabetes is not connected with any quality of the urine is further substantiated when it is considered, that allowing some small increased discharge of urinary extractive matter in these cases beyond what takes place in health, it is well known that such patients are saved any loss from the fluids or solids of the body by the absence of the wonted excretion of the surface, perspiration sensible and insensible being as it were annihilated from the torpor and total inaction of the perspiratory vessels. And hence it would appear by the defect of perspiration, a quantity of fluid and its extract is saved, and retained in the system, and perhaps more than a counter-balance to any increased quantity of extractive matter discharged by urine: and by this train of thinking, I have been induced to conclude, that the quality of the urine cannot be considered as the cause of the shrinking in diabetes.”

On this laboured disquisition our readers will make their own comments. We cannot, however, dismiss the subject without briefly noticing the attempts which have been made to cure this disease by the internal exhibition of *nitric acid*.

The following case of Diabetes Mellitus, successfully treated by the *nitric acid*, was communicated to Dr. Gilby, of Birmingham, by Mr. Chavasse, surgeon in Walsall, and published in the Medical and Physical Journal.

“Thomas Pitt, aged 64, applied to me,” says Mr. Chavasse, “about ten weeks since, with an inveterate diabetes. He had been a hard drinker for more than twenty years, and had laboured under a profuse discharge of water for thirteen months. When he first consulted me, he was making nine quarts of sweet urine in twenty-four hours: his pulse was weak and frequent; his thirst excessive; appetite very bad, and appearance cachectic. He was directed to live upon animal food, to abstain from vegetables, sugar, and all fermented liquors; but at any time, when unusually faint, to drink a few glasses of sherry. He took volatile and fixed alkali alternately in the day, and opium at bedtime. As the latter medicine produced constipation, he had re-

urfe to the flowers of fulphur to remove that inconvenience. He perfifted in following thefe rules for twelve days; but as edematous fwelling of the lower extremities came on, accompanied with increased debility, hectic fever, and urinous fecretion, I thought it prudent to abandon this plan. He was now directed to take every two hours, two ounces of a mixture, composed of a drachm of nitric acid, a quart of water, and one ounce of the fyrup of ginger; to relinquish the ufe of his opium; to eat any kind of food his ftomach would prefer; to drink porter at his meals, and four glaffes of port wine after dinner. At the expiration of a week, he called on me again; I found his general health much improved, and the quantity of urine evacuated was diminished to feven quarts. Fearing the acid might irritate the bowels, the ufe of it was reduced to every four hours; and he continued taking that dofe for twelve days longer, when I found him convalefcant, and making only five quarts of water in the day and night. Suspecting that this favourable change might be the refult of a change of diet, I directed him to eat and drink as he had done the laft nineteen days, to difcontinue all medicines, and to call on me again in a week. I conjectured erroneoufly, for five days had fcarce elapfed, when the anafarcous fymptoms and increased fecretion of urine both returned. He then regularly perfifted in taking the nitric acid every four hours for a month; when the efficacy of the medicine was as conspicuous as before. He now enjoys better health than he has done for years, and his flow of urine is as moderate as it ever had been."

This cafe is preceded by four others, much in detail, by Dr. Gilby. Three of thefe terminated favourably, and the fourth was greatly relieved by the *nitrous acid*.

GENUS LXIII. HYSTERIA.

HYSTERICIS.

Hysteria, *Sauv.* gen. 135. *Lin.* 126. *Vog.* 219. *Sag.* gen. 242.

Malum hystericum, *Hoffm.* III. 50. *Junck.* 36.

Affectio hysterica, *Willis* de Morb. Convulsiv. cap. 5. 10, 11.

Sydenham Diff. Epist. ad G. Cole. *Whytt* on Nervous Disorders.

1. *Description.*] The hysteria is a convulsive difeafe, which comes on at uncertain intervals, fometimes longer and fometimes fhorter, but at no flated time. The paroxyfms commonly begin with a languor and debility of the whole body; yawning, ftretching, and reftleffnefs. A fenfe of coldnefs alfo in the extremities almoft always precedes, and for the moft part remains during the whole time of the paroxyfm. To this fometimes fucceeds a

sense of heat; and the two sensations alternate with each other in different parts of the body. The face is sometimes flushed and sometimes pale; and sometimes the paleness and flushing come alternately. There is a violent pain in the head; the eyes become dim, and pour out tears; there is a rumbling and inflation of the intestines; a sensation is felt like that of a globe ascending from the lower part of the abdomen or hypogastrium, which sometimes seems to roll along the whole alimentary canal. It ascends to the stomach, sometimes suddenly, sometimes slowly, and there produces a sense of inflation and weight, together with anxiety, nausea, and vomiting. At last it comes up to the throat where it produces a sense of suffocation, and difficulty of breathing or swallowing. During this time there are the most violent pains both in the external and internal parts of the abdomen; the muscles are convulsed; the umbilicus is drawn inwards; and there are frequently such spasms of the intestines, that neither clysters can be injected, nor even flatus pass downwards. Sometimes the paroxysm remits after these symptoms have continued for a certain time, but more frequently the patients fall into fainting fits; sometimes they lie without motion, as if they were in a deep sleep; sometimes they beat their breasts violently and continually with their hands, and sometimes they are seized with general convulsions, and the disease puts on the appearance of an epilepsy. In some patients the extremities become cold and stiff, and the body has the appearance of one in a catalepsy. Sometimes a most violent beating pain takes place in some part of the head, as if a nail was driving into it, and all visible objects seem to turn round; grievous pains attack the loins, back, and bladder, and the patients make a surprising quantity of urine as limpid as water; which last is one of the surest signs of the disease. The mind is very much affected as well as the body. Sometimes the patients are tormented with vain fears; sometimes they will laugh, at other times cry immoderately; and sometimes their temper becomes so peevish and fretful, that they cannot enjoy a moment's quiet. The appearances which take place in this affection are, indeed, so varied, that they can hardly be enumerated: they may, however, with propriety be divided into hysteric fits, which very much resemble those of epilepsy, excepting that they are not attended with an abolition of the internal senses; and hysteric symptoms, such as the *globus hystericus*, *clonus hystericus*, and the like, which are chiefly known to constitute a part of this disease from being observed to alternate with fits.

2. *Causes.*] The general cause of hysteria is thought by the best physicians to consist in a too great mobility and irritation of the nervous system, and of consequence the disease may be brought on by whatever debilitates and renders the body irritable. Hence it most frequently attacks females of a weak and lax habit of

ly, though there are some instances of men also attacked by it. It generally comes on between the age of puberty and thirty-five, and makes its attacks during the time of menstruation more frequently than at any other. It also more frequently seizes barren women and young widows, than such as are bearing children.

[*Prognosis.*] Though the appearance of this disease be so very terrible, it seldom proves mortal unless by wrong treatment: notwithstanding this, it is extremely difficult of cure, and only admits of any thing else than being palliated; for though it should seem to be conquered by medicine for a time, it very quickly returns, and that from the slightest causes.

[*Cure.*] The ends principally to be aimed at in the cure of this disease are, in the first place, the removal of particular convulsive or spasmodic affections immediately producing various appearances in the disease, whether under the form of proper hysteric fits, or merely of what may be called hysteric symptoms; and in the second place, the prevention of the return of symptoms after they have been removed, by the employment of proper remedies, during those intervals, from complaints which patients often have when labouring under this affection.

The most powerful remedy hitherto discovered in hysteric cases is opium, or the tincture of it. By this commonly the most violent paroxysms are stopped, though it be insufficient to accomplish a radical cure. In Dr. Home's Clinical Experiments we find an instance of a cure performed by venesection, though this remedy has been generally condemned in hysterical cases. *Assafoetida* seems to stand next in virtue to opium; though with some it disagrees, and occasions pains in the stomach and vomiting. It will also frequently remove an hysteric fit: but its effects are of short duration: and if it do not effect a cure soon after exhibition, no service is to be expected either by perseverance in the use of it or by increasing the dose, and with some constitutions it disagrees to such a degree as to occasion convulsions. If the patient be seized with a violent fit, so that she can swallow nothing, which is frequently the case, it will be proper to apply the strong volatile alkali to her nose; or if that be not at hand, the vapour of burning feathers is sometimes very efficacious. In some instances benefit is derived from the sudden application of cold water to the face or hands; but still more frequently the application of water in a tepid state, particularly the warm pedicarium, is found to be of very great service in bringing about a favourable termination of different violent hysteric symptoms. A tincture of galbanum and *assafoetida* will also prove serviceable: but it must be remembered, that none of these things will prevent the return of the disease; and therefore a radical cure is to be attempted, in the absence of the fits, by exercise, the Peruvian bark, chalybeates, mineral waters, and other tonics; but particu-

larly, when the state of the patient is such as to be able to bear it, by the use of the cold bath, which, where it does not disagree with the constitution, is often of the greatest service in preventing returns of this affection.

Dr. Saunders gives the following instructions relative to the treatment of hysteria. He says,

In the paroxysms we should attempt to quiet the spasms and convulsions.

(1) In cases of plethora, where the head is much affected, by bleeding.

(2) By the use of antispasmodics.

(3) By friction of the lower extremities.

(4) By the pediluvium.

(5) By antispasmodic and anodyne clysters.

In the interval of the paroxysm,

By strengthening the nervous system, and thereby removing the morbid irritability of it.

(1) By gentle evacuations from the *primæ viæ*.

(2) By bitter and tonic remedies.

(3) By exercise, especially on horseback.

(4) By chalybeates.

(5) By a milk diet in some cases, where other remedies are found ineffectual.

(6) By restoring suppressed evacuations.

In some cases of great irritation, the doctor observes, that matrimony, and the antiphlogistic regimen, answer best.

GENUS LXIV. HYDROPHOBIA.

The Dread of WATER.

Hydrophobia, *Sauv.* gen. 231. *Lin.* 86. *Vog.* 30. *Sag.* gen. 343. *Boerb.* 1138. *Junk.* 124. *Mead* on poisons. *Desf.* sur la rage. *Sauv.* diss. sur la rage. *James* on canine manes. *Dalby*, on the virtues of cinnabar and musk against the bite of a mad dog. *Nugent* on the hydrophobia. *Chén.* Nouvelle methode pour le traitement de la rage. *Journ. de Medecine*, passim. *Medical Obs. and Inquiries*, vol. i. art. 34. vol. v. art. 20. 26. and App. *Med. Transact.* vol. i. art. 5. 12. and 15. *Heysham*, Diss. inaug. de rab. canin. Edinb. 1777. *Parry*, Diss. inaug. de rab. contagios. in canin. Edinb. 1778. *Andry*, Recherches sur la rage, 1777. *Vaughan*, Cases of hydrophobia, second edit. 1778. *Houlston* Essay on Poisons, 1776.

Sp. I. *Hydrophobia Rabiosa*, or Hydrophobia consequent to the bite of a Mad Animal.

Hydrophobia vulgaris, Sauv. sp. 1.

It is the opinion of some, that Dr. Cullen has done wrong in employing the term *hydrophobia* as a generic name, under which canine madness is included: and it must be allowed, that the dread of water, while it is not universal, is also a symptom occurring very late in the disease, at least in the greater number of cases. Perhaps his arrangement would have been less exceptionable, if, following Linnæus, he had adopted *rabies* as a generic term, and distinguished this particular species by the epithet of *canina utagiosa*, or the like. Disputes, however, about names, are in general not very important; and it is sufficient to observe, that the affection now to be treated of is canine madness or that disease which arises from the bite of a mad animal.

1. *Description.*] This disease commonly does not make its attack till a considerable time after the bite. In some few instances, it has commenced in seven or eight days from the accident; but generally the patient continues in health for 20, 30, or 40 days, or even much longer. The bite, if not prevented, will in general be healed long before that time, frequently with the greatest ease; though sometimes it resists all kinds of healing applications, and forms a running ulcer which discharges a quantity of matter for many days. It has been said that the nearer the wounded place is to the salivary glands, the sooner the symptoms of hydrophobia appear. The approach of the disease is known by the cicatrix of the wound becoming high, hard, and elevated, and by a peculiar use of prickling at the part; pains shoot from it towards the throat; sometimes it is surrounded with livid or red streaks, and seems to be in a state of inflammation; though frequently there is nothing remarkable to be observed about it. The patient becomes melancholy, loves solitude, and has sickness at stomach. Sometimes the peculiar symptom of the disease, *the dread of water*, comes on all at once. We have an instance of one who, having taken a vomit of ipecacuanha for the sickness he felt at his stomach, was seized with the hydrophobia in the time he was drinking the warm water. Sometimes the disease begins like a common sore throat; and the soreness daily increasing, the hydrophobic symptoms shew themselves like a convulsive spasm of the muscles of the fauces. In others, the mind seems to be primarily affected, and they have a real *dread* of water or any liquid, before they try whether they can swallow it or not. Dr. James, in his treatise on canine madness, mentions a boy sent out to fill two bottles with water, who was so terrified by the noise of the liquid running into them, that he fled into the house crying out that he was be-ritched. He mentions also the case of a farmer, who, going to draw some ale from a cask, was terrified to such a degree at its running into the vessel, that he ran out in great haste with the

spigot in his hand. But in whatever manner this symptom come on, it is certain that the most painful sensations accompany every attempt to swallow liquids. Nay, the bare sight of water, of looking-glasses, of any thing clear or pellucid, will give the utmost uneasiness, or even throw the patient into convulsions.

With regard to the affection of the mind itself in this disease it does not appear that the patients are deprived of reason. Some have, merely by the dint of resolution, conquered the dread of water, though they never could conquer the convulsive motion which the contact of liquids occasioned: while this resolution has been of no avail; for the convulsions and other symptoms increasing, have almost always destroyed the unhappy sufferers.

In this disease there seems to be an extreme sensibility and irritability of the nervous system. The eyes cannot bear the light or the sight of any thing white; the least touch or motion offends them; and they want to be kept as quiet and in as dark a place as possible. Some complain of the coldness of air, frequently when it is really warm. Others complain of violent heat, and have a great desire for cold air, which yet never fails to increase the symptoms. In all there is a great flow of viscid saliva into the mouth which is exceedingly troublesome to the patient, as it has the same effect upon the fauces that other liquids have. This, therefore, is perpetually blown off with violence, which, in a patient of Dr. Fothergill's, occasioned a noise not unlike the hollow barking of a dog, and which he conjectures might have given rise to the common notion that hydrophobous patients bark like dogs. They have an insatiable thirst, but are unable to get down any drink, except with the utmost difficulty; though sometimes they can swallow bread soaked in liquids, slices of oranges, or other fruits. There is a pain under the *scrobiculus cordis*, as in the tetanus; and the patients mournfully point to that place as the seat of the disease. Dr. Vaughan is of opinion that it is this pain, rather than an difficulty in swallowing, which distresses the patient on every attempt to drink. The voice is commonly plaintive and mournful but Dr. Vaughan tells us, there is a mixture of fierceness and timidity in the countenance which he cannot describe, but by which he could know a hydrophobous person without asking any questions.

In this distemper, indeed, the symptoms are so various, that they cannot be enumerated; for we seldom read two cases of hydrophobia which do not differ very remarkably in this respect. Some seem to have, at times, a furious delirium, and an inclination to spit at or bite the by-standers; while others shew no such inclination, but will even suffer people to wipe the inside of their mouth with the corner of a handkerchief, in order to clear away the viscid saliva which is ready to suffocate them. In some male patients there is an involuntary erection of the penis, and emission of the

semen; and the urine is forced away by the frequent return of the spasms. In a letter from Dr. Wolf, of Warsaw, to Henry Baker, F. R. S., dated Warsaw, Sept. 26th, 1776, we have the following melancholy account of the cases of five persons who died of the hydrophobia: "None of them quite lost their right senses; but they were all talking without intermission, praying, lamenting, despairing, cursing, sighing, spitting a frothy saliva, screeching, sometimes belching, retching, but rarely vomiting. Every member is convulsed by fits, but most violently from the navel up to the breast and œsophagus. The fit comes on every quarter of an hour; the fauces are not red, nor the tongue dry. The pulse is not at all feverish; and when the fit is over, nearly like a sound pulse. The face grows pale, then brown, and during the fit almost black; the lips livid; the head is drowsy, and the ears tingling: the urine limpid. At last they grow weary; the fits are less violent, and cease towards the end; the pulse becomes weak, intermittent, and not very quick; they sweat, and at last the whole body becomes cold. They compose themselves quietly, as if to get sleep, and so they expire. The blood drawn a few hours before death appears good in every respect. A general observation was, that the lint and dressings of the wounds, even when dry, were always black, and that when the pus was very good in colour and appearance." In one of Dr. Wolf's patients who recovered, the blood stunk intolerably as it was drawn from a vein; and one of Mr. Vaughan's patients complained of an intolerable fetid smell proceeding from the wounded part, though nobody but himself could perceive it. In general, the violent convulsions cease a short time before death; and even the hydrophobia goes off, so that the patients can drink freely. But this does not always happen; for Mr. Vaughan mentions the case of a patient, in whom, "when he had in appearance ceased to breathe, the spasmus cynicus was observable, with an odd convulsive motion in the muscles of the face; and the strange contrariety which took place in the action of these produced the most horrid assemblage of features that can well be conceived. Of this patient also it was remarkable, that in the last hours of his life he ceased to call for drink, which had been his constant request; but was perpetually asking for something to eat."

The hydrophobia seems to be a symptom peculiar to the human race; for the mad animals which communicate the infection, do not seem to have any dread of water. Dr. Wolf, in the letter above quoted, says in general, that cattle bit at the same time, and by the same animal (a mad wolf), which bit the persons whose cases he related, died nearly with the same frightful raging as the men; but says nothing of their having any hydrophobia: nor Dr. James and some others assert, that the hydrophobia is not always an attendant on rabies canina in the human race; and indeed it is

certain that the disease has proved mortal after this terrible symptom has been removed. With regard to the symptoms of madness in dogs, they are very equivocal; and those particularly enumerated by some authors, are only such as might be expected in dogs much heated or agitated by being violently pursued and struck. One symptom indeed, if it could be depended upon, would determine the matter; namely, that all other dogs avoid and run away from one that is mad; and even large dogs will not attack one of the smallest size who is infected with this disease. Upon this supposition they point out a method of discovering whether a dog who hath been killed was really mad or not; namely, by rubbing a piece of meat along the inside of his mouth, and then offering it to a sound dog. If the latter eats it, it is a sign the dog was not mad; but if the other rejects it with a kind of howling noise, it is certain that he was. Dr. James tells us, that among dogs the disease is infectious by staying in the same place; and that, after a kennel has been once infected, the dogs put into it will be, for a considerable time afterwards, in danger of going mad also. A remedy for this, he says, is, to keep geese for some time in the kennel. He rejects as false the opinion that dogs when going mad will not bark; though he owns that there is a very considerable change in their bark, which becomes hoarse and hollow.

2. *Causes, &c.*] In no disease whatever are we more at a loss to discover the causes than in the hydrophobia. In dogs, foxes, and wolves, it seems to come on spontaneously; though this is contested by some authors. It is said, that the causes commonly assigned, viz. heat, feeding upon putrid flesh, want of water, &c. are not sufficient for producing the distemper. It does not appear that madness is more frequent among dogs in the warm than in the cold climates; nay, in the island of Antigua, where the climate is very hot, and the water very scarce, this distemper has never, it is said, been observed. As to putrid aliment, it seems natural for dogs to prefer this to any other, and they have been known to subsist upon it for a long time without any detriment. For these reasons, we think the disease arises from a specific contagion, like the small-pox and measles among the human race, which, being once produced by causes unknown, continues to be propagated by the intercourse which dogs have with each other, as the diseases just mentioned continue to be propagated among the human race, by means of the intercourse which they have with one another.

With regard to the immediate cause among mankind, there is not the least doubt that the hydrophobia is occasioned by the saliva of the mad animal being mixed with the blood. It does not appear that this can operate through the cuticula; but, when that is rubbed off, the smallest quantity is sufficient to communicate the disease, and a slight scratch with the teeth of a mad animal has been found as pernicious as a large wound. It is certain also, that the

infection has been communicated by the bites of dogs, cats, wolves, foxes, weasels, swine, and even cocks and hens, when in a state of madness. But it does not appear that the distemper is communicable from one hydrophobous person to another, by means of the bite, or any other way. Dr. Vaughan inoculated a dog with the saliva of a hydrophobous child, but the animal continued free from disease for two months; and though the doctor promised to inform the public if it should happen to occur afterwards, nothing has hitherto appeared on that subject. A nurse also frequently kissed the child during this time of his disorder, but no bad consequence ensued.

When we attempt to investigate the nature of the cause of the hydrophobia by dissections, our enquiries are commonly disappointed. In two bodies opened by Dr. Vaughan, there was not the least morbid appearance; in the very fauces, where we might have expected that the disease would have shewn itself most evidently, there was not the least appearance even of inflammation. The stomach, intestines, diaphragm, œsophagus, &c. were all in a natural state: neither do we find in authors of credit any certain accounts of morbid appearances in the bodies of hydrophobous persons after death. Dr. Vaughan therefore concludes, that the poison acts upon the nervous system; and is so wholly confined to it, that it may be doubted whether the qualities of the blood are altered by it or not; and that it acts upon the nerves by impairing and disturbing their functions to such a degree as speedily to end in a total extinction of the vital principle. As to the difficulty in swallowing, generally believed to accompany dread of the water, he treats it as a misrepresentation, as well as that the œsophagus with the muscles subservient to deglutition are especially concerned in this disease. The principal foundation of the evil, he thinks, rests on a morbid sensibility, both of the external and internal fauces. For the sight of a liquid, or the application of any substance to the internal fauces, but more especially of a fluid, instantly excites the most painful feelings. Nay, the same symptoms are produced by touching the external fauces with a fluid, or by the contact of cold air with these parts; and nearly in as great a degree. But a solid or a fluid substance being conveyed into the œsophagus, the transit into the stomach is accomplished with little or no impediment; so that, in fact, the difficulty is surmounted before the patient be engaged in the action of swallowing. Nor is the excruciating pain, which never fails to be the companion of every attempt to drink, felt in the *fauces* and *throat*; it is, he says, at the *scrobiculus cordis*, to which the sufferer applies his hand.—From this last circumstance, therefore, from the presence of the *risus sardonicus*, from the muscles of the abdomen being forcibly contracted, and from the sense of suffocation which seems to threaten the patient with immediate death, Dr. Vaughan has

been led to think, that in the hydrophobia a new sympathy is established between the fauces, the diaphragm, and the abdominal muscles.

3. *Prognosis.*] When a person is bit, the prognosis, with regard to the ensuing hydrophobia, is very uncertain. All those who are bit do not fall into the disease; nay, Dr. Vaughan relates that, out of thirty bit by a mad dog, only one was seized with the hydrophobia. During the interval, betwixt the bite and the time the disease comes on, there are no symptoms by which we can judge whether it will appear or not. When once it hath made its appearance, the prognosis is certainly fatal.

4. *Treatment.*] This disease being, in the first instance, produced by a wound, most frequently falls to be treated by the surgeon, for which reason we have transferred the greater part of the subject to our third volume. To what has been there said, however, we think it right to add the following reasons, urged by the late Dr. Houlston in his "Observations on Canine Madness," in behalf of the use of *mercurials*, though we by no means think that any reliance should be placed on that mode of treatment.

"May it not," says the doctor, "very easily happen, that a remedy, the gradual exhibition of which may prevent the attack, would prove wholly insufficient for the cure of the hydrophobia? Or is the inference just, that because the action of mercurials, applied for three or four days at most, will not cure the disease in its last hasty stage, the same remedy would have been of no avail in the interval between the bite and the attack, which was (in these cases) of one, three, and nine months? During that period, a gradual and sufficient action of the mercury might have been excited; whereas, when the hydrophobia has appeared, there is scarcely ever time for any such effect. There is some reason to conclude, too, that under certain diseases, the system is less capable of being acted upon by mercury; which, though applied in large quantities, seems then not to produce its usual effects.

"I mean not to dwell upon the reasonableness of a practice, in which the action of the remedy is principally determined to the part where the virus chiefly exerts its baneful powers, viz. the salivary glands; nor yet upon the authority of the late Dr. James and the celebrated Sauvages, who have largely insisted on the beneficial effects of mercury, to prevent the dangerous consequences of the bite of mad animals."

Dr. Houlston gives a brief account of a pamphlet published at Paris by order of government, entitled, "*Methode éprouvée pour le Traitement de la Rage*;" wherein we are informed of the success of a mode of treatment, of which mercurial inunction is the basis and most essential part, laid down by Monsieur de Lassone, first physician to the king of France, and tried in eleven out of fifteen persons dreadfully bit and torn by a mad wolf on the 8th and 9th of De-

ember, 1775, within twenty-four hours of each other. Three of these unhappy people, trusting to powdered oyster-shells, and similar remedies of no use, were not subjected to this treatment, and died in a few days raving mad; as did also a young woman, who did not apply for relief till two days before she died, and after the symptoms of hydrophobia had commenced.

The remaining eleven were, by the States of Macon, near which place the accident happened, put under the care of a physician of Cluny, Monsieur Blaise; and the account he gives of the success attending the method of treatment pursued, of which a summary is subjoined, is as follows:—One man, who for ten days exactly followed the plan laid down, whose wounds, though very large, suppurated well, and were in a good state, and in whom the mercury seemed to begin to act, became melancholy, was seized with a horror and dread of liquids, and died within forty-eight hours afterwards, though placidly in his senses, and without being convulsed. A second, whose mouth and gums had been slightly affected by the mercury, which he used near a month, grew delirious and furious; and, after experiencing the symptoms of hydrophobia for two days, died comatous. This man, however, it was found, had privately drank very large quantities of wine for three days together preceding his delirium; and it is supposed this contributed greatly to his death. A third, a boy, who continued the use of the mercurial frictions and antispasmodic medicines for eighteen days, and was doing well, being removed home by his friends, died there three weeks after, as is believed only from the wound in his head not being taken due care of, and not from madness, as he drank freely an hour before his death.—The remaining eight recovered, although one of them during the course became sad and melancholy; and another, a woman, delivered of a child during the time, manifested an aversion to liquids. Salivation took place in most of them; upon which, gradually excited, (though they endeavour to guard against it by repeated purging), depends, most probably, in such cases, the only feeble hope of security from canine madness.

Dr. Blaise adds, that “the treatment was continued, in all, above a month in the eight who got well, six of whom had been grievously bit in parts not covered with the clothes; and that most of them experienced, nearly at the same time, symptoms of nervous affection, which might be attributed to the virus too much attenuated and weakened by the remedies, to produce a manifest accession of hydrophobia.” He concludes with these judicious remarks: “It is most certain, that the remedies we have employed have been very successful; but they would have been much more so, had they been used early; and particularly, if almost immediately after the bite, those external means had been made use of, which appear to me indispensably necessary, viz. deep scarifications,

cutting away the lacerated parts and those adjoining to the wounds, the cautery, applying cupping-glasses, and establishing a copious suppuration, for a long time, in the part bit; because it sometimes happens, that the saliva is lodged in the cellular membrane, where it remains, as it were, fixed and inert, till, brought into action by some cause, it enters into the circulation, affects the nerves, and produces the train of symptoms of this most terrible of diseases."

In the history of the Royal Society of Medicine at Paris, vol. ii. we are informed by Monsieur Blaise, that, of the eight persons mentioned above, one died with hydrophobia six weeks after he was discharged apparently well; but it appears that four days before this attacked him, he had passed his arm down the throat of an ox believed to be mad, though the man is not said to have been bit by it. Monsieur Blaise also mentions his having afterwards successfully treated two other children in this method; whereas a third, bit by the same dog, and not so treated, died mad. We apprehend the *apparent success* in some of these instances arose from the accidental circumstance of *no virus* having got admission into the wounds.

Dr. Monro is of opinion, with some others who have insinuated the propriety of removing the bitten part, that the disease may be prevented by excision, *any time between the bite and the second inflammation of the wound*; a fact, if substantiated by future experience, of very great importance; since positive proof of the animal's being *mad*, may generally be obtained *in the interval*, and the practitioner then decidedly knows, what course he is to take to save the life of the patient.

Sp. II. *The Spontaneous HYDROPHOBIA.*

Hydrophobia spontanea, Sauv. sp. 2.

This disease very much resembles the former, so that it has undoubtedly been often mistaken for it. It has been known to come on from an inflammation of the stomach, where it was cured by repeated and large blood-letting; in hysteria, where it was cured by opium, musk, or other antispasmodics; and in putrid fevers, where it was cured by evacuating the intestinal canal of the putrid matters by repeated clysters. A very good way of distinguishing the two is, that in the spontaneous hydrophobia the patient is much more delirious than in the genuine species. In the instance mentioned in the Medical Essays of this symptom attending the inflammation of the stomach, the patient *raved in the most extraordinary manner*. Dr. Raymond says he remembers a spontaneous hydrophobia *attended with madness*; and in almost all the cases of hydrophobia which are said to have been cured, the patient was very delirious. Dr. Nugent's patient was very frequently delirious,

and dreaded *dogs* as well as water. In the Medical Transactions a case is communicated by Mr. Wrightson, surgeon, in Sedgfield, Durham, of *canine madness* successfully treated. This madness, indeed, came on after the bite of a dog said to be mad: but it appeared only four days after the accident happened, and was attended with symptoms very unlike any of those above mentioned; for he suddenly started up in a fit of delirium, and ran out of the house, and after being brought in, caught hold of the hot bars of the grate which held the fire: whereas in the true hydrophobia, the patients dread the fire, light, or any thing which makes a strong impression on the senses, exceedingly. It is probable, therefore, that this was only a spontaneous hydrophobia, especially as it readily yielded to venæsection, thirty drops of laudanum, and pills of a grain and a half of opium given every three hours, some boluses of musk and cinna^bar, &c. while in some of the former cases, as much opium was given to a boy as would have deprived of life the strongest healthy man had he swallowed it; and yet this amazing quantity produced scarce any effect. This patient also dreaded the sight of a dog.

ORDER IV. VESANIÆ.

Paranoïæ, *Vog.* Class IX.

Deliria, *Sauv.* Class VIII. Ord. III. *Sag.* Class XI. Ord. III.

Ideales, *Lin.* Class V. Ord. I.

GENUS LXV. AMENTIA.

FOLLY, or *Idiotism.*

Amentia, *Sauv.* gen. 233. *Vog.* 337. *Sag.* 346.

Morosis, *Lin.* 106.

Stupiditas, Morosis, Fatuitas, *Vog.* 336.

Amnesia, *Sauv.* gen. 237. *Sag.* 347.

Oblivio, *Lin.* 107. *Vog.* 338.

Memoriæ debilitas, *Junck.* 120.

GENUS LXVI. MELANCHOLIA.

MELANCHOLY *Madness.*

Melancholia, *Sauv.* gen. 234. *Lin.* 71. *Vog.* 332. *Sag.* 347.

Boerb. 1089. *Junck.* 121.

Dæmonomania, *Sauv.* gen. 236. *Sag.* 348.

Dæmonia, *Lin.* 69.

Vesania, *Lin.* 70.

Panophobia, *Lin.* 75.

Athymia, *Vog.* 329.

Delirium melancholicum, *Hoffm.* III. 251.

Erotomania, *Lin.* 82.

Nostalgia, *Sauv.* gen. 226. *Lin.* 83. *Sag.* 338. *Junck.* 125.

Melancholia nervæa, *Cl. Lorry* de melancholia, P. I.

GENUS LXVII, MANIA.

RAVING or FURIOUS *Madness.*

Mania, *Sauv.* gen. 235. *Lin.* 68. *Vog.* 331. *Sag.* 349. *Bærl.* III. *Junck.* 122. *Battie* on Madness.

Paraphrosyne, *Lin.* 66.

Artemia, *Lin.* 67.

Delirium maniacum, *Hoffm.* III. 251.

ALTHOUGH these diseases may be considered as distinct genera, yet they are so nearly allied, and so readily changed into each other, that it sufficiently justifies the treating all of them together.

1. *Description.*] The distinguishing characteristic of madness, according to Dr. Battie, is *false perception*; and under this general character may be comprehended all kinds of what is called *madness*, from the most silly stupidity and idiotism to the most furious lunacy. Frequently the different kinds of madness are changed into each other by the casual excitement of some passion: thus, an idiot may become furiously mad, by being put in a violent passion; though this does not so often happen as the change of melancholy into the raving madness, and *vice versa*.

It is a very surprising circumstance, that mad people are not only less liable to be seized with infectious disorders than those who are in perfect health; but even when labouring under other diseases, if the patients chance to be seized with madness, they are sometimes freed from their former complaints. Of this kind Dr. Mead relates two very remarkable instances.

On the other hand, it has been known, that an intermittent fever, supervening madness of long standing, has proved a cure for the madness; the senses having returned when the fever terminated. Dr. Monro saw two instances of this himself; and mentions it as an observation of his predecessor in the care of Bethlem hospital.

Another remarkable circumstance is, that immoderate joy, long continued, as effectually disorders the mind as anxiety and grief. For it was observable in the famous South-Sea year, when so many immense fortunes were suddenly gained, and as suddenly

st, that more people had their heads turned, from the prodigious flow of unexpected riches, than from the entire loss of their whole substance.

Mad people, especially of the melancholic kind, sometimes obstinately persevere in doing things which must excite great pain; whence it should seem as if their minds were troubled with some attracting notions, which make them patiently bear the present tortures, lest more severe tortures should be inflicted; or possibly they may think, that, by thus tormenting the body, they render themselves more acceptable to the divine Being, and expiate the heinous sins of which they may imagine themselves to have been guilty.

It is, however, also highly probable, that their feelings differ exceedingly from what they are in a natural state; at least they are every day observed to endure, apparently without the smallest uneasiness, watching, hunger, and cold, to an extent which in a state of health would not only be highly distressing, but to the greater part of individuals would even prove fatal. And this resistance of hunger, cold, and sleep, affords perhaps the best test for distinguishing cases of real insanity, from cases where the disease is only feigned, and appearances of it put on, to answer particular purposes; at least where this power of resistance is present we have good reason to conclude that the affection is not feigned.

2. *Treatment.*] Although we are well acquainted with many of the remote causes of this disease, some of the principal of which have already been mentioned, yet we are still so ignorant of the influence of these upon the system, as giving a derangement of the mental faculties, that no general principles on which the cure may be conducted, can with any confidence be pointed out.

It may, however, be observed, that while some remedies seem to operate by producing an artificial termination of this complaint, many others have effect only as aiding a natural termination. And where a recovery from this disease does take place, it most frequently happens in consequence of a natural convalescence. All the species and degrees of madness which are hereditary, or that grow up with people from their early youth, are out of the power of physic; and so, for the most part, are all maniacal cases of more than one year's standing, let them arise from what source soever. Very often mere debility, the dregs of some particular disease, such as an ague, the small-pox, or a nervous fever, shall occasion different degrees of foolishness or madness. In these cases, the cure must not be attempted by evacuations; but, on the contrary, by nourishing diet, clear air, moderate exercise, and the use of wine: whereas, in almost all the other maniacal cases, which arise from different sources, and which come on in consequence of intemperate living, violent passions, or intense thinking, it is generally held, that evacuations of every kind are necessary,

unless the constitution of the patient be such as absolutely forbids them.

Blood is most conveniently drawn either from the arms or jugulars; and if the weakness be such as renders it improper to take away much blood, we may apply cupping-glasses to the occiput.

Vomiting, in weakly people, must be excited by the vinum ipecacuanhæ; but in the more robust by emetic tartar or antimonial wine (No. 1.) or (No. 2.): the most efficacious cathartics are (No. 237.) or (No. 239.), the infusion of tincture of black hellebore, or infusion of senna quickened with tincture of jalap; but if there be suppression of the menses, or hæmorrhoidal discharge, then aloëtic purges will be more proper; and in some instances cooling saline purgatives, such as lixiviated tartar, are of great service. (Vide Form. No. 55.) In general, mad people require very large doses, both of emetics and cathartics, before any considerable operation ensues.

Dr. Monro assures us, that the evacuation by vomiting is infinitely preferable to any other: the prodigious quantity of phlegm with which the patients in this disease abound, he says, is not to be got the better of but by repeated emetics; and he observes, that the purges have not their right effect, or do not operate to so good purpose, until the phlegm be broken and attenuated by frequent emetics. He mentions the case of a gentleman who had laboured under a melancholy for three years, from which he was relieved entirely by the use of vomits and a proper regimen. Increasing the discharge by urine, is also of the greatest moment, especially when any degree of fever is present. The cutaneous discharges are also to be promoted, for which purpose the hot bath is of the highest service in maniacal cases. Hoffman asserts, that he has seen numerous instances, both of inveterate melancholy and raging madness, happily cured by means of warm bathing; bleeding and nitrous medicines having been premised. Camphor has been highly commended; but if we can believe Dr. Locker of Vienna, not very deservedly. Having found very good effects from a solution of this medicine in vinegar, he took it for granted that all the success was owing to the camphor; therefore in order to give it a fair trial, he selected seven patients, and gave it in large doses of half a drachm twice a-day. This was continued for two months, and the doctor was surprised to find that only one of his patients received any benefit. He then returned the other six back to the camphorated julep made with vinegar, and in a few weeks four of them recovered the use of their reason. This inclined him to think that the virtue depended solely on the vinegar, and accordingly he began to make the trial. Common vinegar was first given; but after a little while he fixed on that which had been distilled, and gave about an ounce and a half of it every day; the patients having been previously prepared by bleeding and purging, which was

peated according as it was found necessary. He gives a list of eight patients who were cured by this method; some in six weeks, others in two months, and none of them took up more than three months in perfecting the cure. He does not, indeed, give the ages of the patients, nor mention the circumstances of the cases; he only mentions the day on which the use of the vinegar was begun, and the day on which they were discharged; and he adds, that they all continued well at the time of his writing.

Dr. Locker informs us, that this medicine acts chiefly as a sudorific; and he observed, that the more the patients sweated, the sooner they were cured: it was also found to promote the menstrual discharge in such as had been obstructed, or had too little of this salutary evacuation.

Dr. Willis, in some maniacal cases, prescribes the extracts of cicuta, hyoscyamus, and other narcotic vegetables; employing the camphorated mixture at the same time.

To the foregoing account we shall here annex the following rules for the cure, laid down by Dr. Saunders.

(1) In cases of mania, with plethora especially, to bleed freely.

(2) To empty the *primæ viæ* by the united operation of emetics and purgatives.

(3) To relieve the head by a seton in the neck.

(4) To restore obstructed evacuations, or to substitute artificial ones.

(5) In many cases to use the sea-bath, and, in some, cold bathing.

(6) In some cases, sleep should be procured by anodynes, such as opium, camphor, Hoffman's anodyne liquor, and the like.

The *Stammonium* has been much recommended, in mania, by Dr. Stork.

Both reason and experience shew the necessity of confining such as are deprived of their senses; and no small share of the management consists in hindering any hurt to themselves or mischief to other persons. It has sometimes been usual to chain and to beat them; but this is both cruel and absurd; since the contrivance called the *strait-waistcoat* answers every purpose of restraining the patients without hurting them.

These waistcoats are made of ticken, or some such strong stuff; are open at the back, and laced on like a pair of stays; the sleeves are made tight, and long enough to cover the ends of the fingers, where they are drawn close with a string like a purse, by which contrivance the patient has no power of his fingers; and, when laid on his back in bed, and the arms brought across the chest, and fastened in that position by tying the sleeve-strings round the waist, he has no use of his hands. A broad strap of girth web is then carried across the breast, and fastened to the bedstead, by which means the patient is confined on his back; and if he should be so outrageous as to require further restraint, the legs are se-

cured by ligatures to the foot of the bed; or they may be secured by being both put into one bag not very wide, which may be more easily fixed than the feet themselves, at least without giving pain.

It is of great use in practice to bear in mind, that all mad people are cowardly, and can be awed even by the menacing look of a very expressive countenance; and when those who have charge of them once impress them with the notion of fear, they easily submit to any thing that is required. The physician, however, should never deceive them in any thing, but more especially with regard to their distemper: for as they are generally conscious of it themselves, they acquire a kind of reverence for those who know it: and by letting them see that he is thoroughly acquainted with their complaint, he may very often gain such an ascendant over them that they will readily follow his directions.

It is a more difficult matter to manage those whose madness is accompanied either with excessive joy or with great dejection and despondency, than those who are agitated with rage: and all that can be done is to endeavour to excite contrary ideas, by repressing the immoderate fits of laughter in the one kind by chiding or threatening (taking care, however, not absolutely to terrify them, which can never be done without danger, and has often added to the misery of the unhappy sufferer); and dispelling the gloomy thoughts in the other, by introducing pleasing concerts of music, or any other species of entertainment which the patients have been known to delight in while they had the use of their reason.

Though blistering the head has generally been directed, Dr. Mead says he has oftener found it to do harm than service; but he recommends issues in the back; and advises to keep the head always close shaved, and to wash it from time to time with warm vinegar. Opium has by many been forbidden in maniacal cases, as supposing that it always increases the disturbance; but there are instances where large doses of this medicine have been found to prove a cure, and perhaps if it were tried oftener we should find powerful effects from it: there certainly cannot much harm ensue from a few doses, which may be immediately disused if they should be found to exasperate the disease.

The diet of maniacal patients ought to be perfectly light and thin: their meals should be moderate; but they should never be suffered to live too low, especially while they are under a course of physic: they should be obliged to observe great regularity in their hours: even their amusements should be such as are best suited to their disposition; and after the disease appears to be subdued, chalybeate waters and the cold bath will be highly proper to strengthen their whole frame and secure them against a relapse.

Dr. Johnstone, in a late treatise on the subject, thus sums up his opinions and advice in cases of insanity: "Thus then it appears," says he, "that melancholy, lunacy, insanity, madness, are

the same disease—a disease of the organs of the mind, often called into action by vehement passions, or by injuries of different organs of the body.

“Madness can only be deemed an hereditary disease, inasmuch, as children have a structure similar to that of their parents who have been mad, and as this peculiar organization is likely to be affected upon by the peculiar manners and habits of the parent in education.

“Madness has no lucid intervals; a man is either insane or not insane at a particular moment; unless indeed we be allowed to term every period, in which the hallucination of the maniac does not appear, a lucid interval. But this would be most absurd, for madness is a disease of the brain, and sensorial powers, and seldom discovers itself equally at all times. Madness is not always distinguishable from manner—for it assumes the form of the character, whatsoever that may be.

“The countenance of maniacs is marked by a peculiar wild stare, not to be mistaken by experienced persons, generally mixed with a suspicious or timid, and sometimes with a furious look. Their health is not always visibly affected, though, for the most part, the fibres of maniacs, or their powers of motion, are less irritable or mobile than in good health; hence they are costive, and difficult to be purged or vomited. Their sensorial powers, in some measure, benumbed; hence they feel pain with less acuteness, and are capable of bearing great extremes of heat and cold, hunger and thirst. Their pulse is generally slower than common, when there is no irritation nor disorganization.

“When it is determined that a man is mad, he ought to be supposed incapable of acting. He may perchance act wisely, but reason being absent, it is solely from accident if he does so. A maniac cannot commit crimes, and therefore he ought not to be amenable to human law for their commission. He does not discriminate right from wrong.

“All maniacs should be controlled, but all do not require confinement. The necessity of confinement must be determined by the degree of fury, by the temper, and the habits of the maniac.

“Finally, maniacs should never be entrusted with the management either of themselves, or any other persons, especially the young. There is no faculty more familiar to us than that of imitation; it is the first exercised by the infant, and it grows with his growth. Maniacs therefore should not be suffered to associate with young persons, who will be likely to imitate their actions. For by reiterated imitation, by slow yet certain steps, we acquire habits, which not only fix the moral character of man, but frequently produce the most pernicious and incorrigible diseases, both of body and mind.”

As practical facts in a disease of such impenetrable obscurity,

must be highly acceptable to the zealous enquirer, we shall here annex some of the latest which have occurred. In the Memoirs of the Medical Society of London, we find the following account of the efficacy of the hyoscyamus, or henbane, in certain cases of insanity, by Dr. Fothergill of Bath :

“ John Wills, aged fifty-three, of a corpulent habit, and swarthy complexion, destined to a sedentary occupation, having met with misfortunes, devoted himself to grief and solitude. His mind being filled with gloomy and distressful apprehensions concerning a future state, he fancied himself haunted by ghosts and spectres, and considered himself as an object of divine vengeance.

“ He became pensive, timorous, and suspicious, sometimes sul-
len and morose, threatening violence to himself and others ; till, at length, the disease having terminated in a settled and confirmed melancholy, confinement became absolutely necessary. At the lunar periods, the symptoms generally increased, but not constantly. During his lucid intervals, he would sometimes converse rationally, complaining of a severe cramp about the region of the stomach, attended with obstinate watching, inquietude, flatulency, and constipation. None of his ancestors had been known to be affected with insanity.

“ Being not easily moved by medicines,” says Dr. Fothergill, “ I ordered him a strong emetic of antimonial wine to be taken in the evening, followed by a brisk cathartic of soluble tartar the next morning, both which operated very freely. These were succeeded by an antimonial diaphoretic combined with camphire and opium, laxatives being occasionally interposed. Venæsection also in the *saphæna* was performed a little before the full moon. By this method the pain of his stomach was relieved, but the maniacal affection remained unabated, and continued to resist the most approved remedies. I resolved, however, to try other powerful medicines of the narcotic class, and therefore had recourse to the henbane. *Hyoscyamus niger foliis amplexicaulibus, sinuatis, floribus sessilibus.* *Linnæi Spec. Plant.* 257.

“ The plant being in full vigour, a quantity of the expressed juice was exposed, in a flat earthen vessel, to the solar rays. The sun being very powerful, having just entered the summer solstice, soon evaporated the aqueous parts, and reduced the remainder to the consistence of an extract, suitable to the form of pills.

“ I ordered a pill composed of five grains of this extract to be administered morning and evening, which agreed well, but produced no sensible effect, except that of a mild diuretic. The week following it was directed to be increased gradually to fifteen grains a-day, with a suitable dose of aloëtic pills interposed occasionally to prevent costiveness. The extract continued to operate as a diuretic ; his nights became more composed ; he no longer started on hearing the door opened, or attempted to conceal himself when

stranger approached. It was increased daily till he reached thirty grains a-day, when it began to occasion a slight giddiness, and propensity to sleep, but the symptoms of melancholy abated : he rested better, and began to converse with more composure. The extract was further increased ; but when he arrived at forty grains a-day, the giddiness and soporific disposition considerably increased, and denoted an over-dose, which obliged me to descend to thirty grains a-day, which he bore without inconvenience, and all the symptoms became more favourable. His timidity, and apprehensions of evil spirits, forsook him, and his countenance began to assume a more cheerful and serene aspect. After taking the extract about six weeks, he appeared to be perfectly restored ; however, it was continued a fortnight longer, when he returned to his business, and afterwards assisted in the harvest, and I had some time after, the satisfaction to hear that he continued to enjoy the *mens sana in corpore sano*, without any symptom of relapse.

“ Having, from this unexpected success, conceived a very favourable idea of the virtues of henbane, I afterwards gave it in a case of the *puerperal* mania, and with similar advantage. The maniacal symptoms were wont to come on soon after delivery, but yielded in a few weeks to this medicine, and that repeatedly after two succeeding deliveries. The extract ought to be prepared fresh every season, according to the process already mentioned, and carefully preserved in a close vessel, otherwise it soon loses its efficacy. And it is necessary to observe, that where these precautions have been neglected, it has since entirely failed in certain maniacal affections, though given in full doses. Whether this was owing wholly to the inefficacy of the remedy, or the disease being hereditary (a circumstance too often industriously concealed even from the physician), I will not presume to determine ; but I am free to acknowledge that I have never yet been so fortunate as to see a single instance of a *real hereditary* mania ever perfectly cured by this, or any other medicine.”

In No. XXII. of the Medical and Physical Journal, Dr. Crowther relates a case of mania in the following terms :

“ John Lutton, aged about 26 years, on the 11th of April, 1800, became deranged. For a fortnight before this period he had been much dejected, and, being under the influence of religious fear, had devoted the greatest part of his time to serious reading. He had previously been in the habit of frequent intoxication, and his mother had been deranged at intervals for the last twenty years. His pulse and other functions, when I first saw him, were natural ; but he had been at times, for a few hours, very ungovernable. Religion was the topic on which he raved. I ordered a strait-waistcoat to be made use of, and prescribed a solution of antim. tartarizat. which operated pretty well, when he had taken 8 grains. After the operation of the emetic, I directed him to

take a few grains of camphor every four hours. On the 13th and 14th there appeared very little alteration in the symptoms. His pulse was about 80 in a minute, and of natural strength. Being coercive he had each day an enema administered, but refused to take any more medicines.

" I designed to put him under the influence of digitalis, but his attendants were unable to compel him to take it. I was surprised to hear, on the 15th, of his death, which took place on the preceding evening. As I saw no symptoms indicating danger during my last visit, I requested leave to examine the body. On the 14th, in the morning, having become less untractable, his attendants had removed the strait-waistcoat. When I visited him, about ten o'clock in the morning, I requested his attendants again to apply the strait-waistcoat immediately; but this direction not being complied with, in the course of an hour he became so unruly that six men were unable to put on the strait-waistcoat; on this account they bound him in bed with cords. The efforts which he made to disentangle himself, occasioned those parts of the body in contact with the cords, particularly about the thorax and thighs, to be much discoloured.

" On opening the head after death, I found that the investing membranes of the brain had no diseased appearance, nor, indeed, did I observe any unnatural appearance in the substance of the brain itself, until I divided a small portion lying immediately over the fella turcica; when I discovered a quantity of fluid blood mixed with air, in the form of froth, proceeding from a ruptured artery, a very small branch originating from the arterial circle of Willis. This extravasation, which did not exceed two or three drachms, seems to have been the immediate cause of this man's death. Perhaps in this case, the pressure of the air which had escaped from the artery, had been more injurious than the blood. The extravasation of two or three drachms of blood seems to be but a trifling cause to produce so great an effect. The body was opened about twenty-four hours after the patient's death. The substance of the brain, in this case, was not harder than usual, that appearance being probably the effect of long continued disease. On examining the thorax, a rib was found fractured by the cords; but the contents of the thorax were not diseased. The heart seemed to be somewhat smaller than usual.

" Those alone who have practised medicine will be able to form a just idea of the difficulties which physicians have to encounter, in combating the prejudices and affections of the sick and their attendants. The antipathy which the lower class of people have to the use of the strait-waistcoat is such, that often no reasoning, no entreaty, can prevail upon them to employ it, until, perhaps, the life of the patient, or his attendants, has been endangered; and even then, as soon as ever a lucid interval ap-

pears. the waistcoat is thrown off, being considered as a badge of insufferable disgrace. This is the second instance of mania occurring in my practice within the last eight months, which terminated fatally, apparently by binding the patient with cords. On this account, it is much preferable to send maniacal patients to houses of reception for this unfortunate class of people, than to leave them to the management of relatives and friends.

“Far the greater proportion of cases of mental derangement, which have fallen under my notice, have been excited by religious fear. The glowing and passionate language, the rude and frantic gestures, the boisterous and thundering tone, in which eternal anathemas are dealt out from the pulpit, in which the terrors of hell are displayed by ignorant enthusiasts amongst the sectaries, at once appal and paralyze the minds of their poor uninformed auditors. One idea only, the prospect of eternal punishment, the image of hell before their eyes, occupies their judgment, rivets their attention. Confusion follows intensity of thought, and derangement, confusion. Several times has it been my lot to observe the progress of cause and effect above described. In attending upon phthisical patients, I have frequently seen the few last moments of these poor wretches embittered by the intrusion of some religious fanatic, whose gloomy picture of futurity has produced derangement.”

GENUS LXVIII. ONEIRODYNIA.

UNEASINESS IN SLEEP.

Somnium, *Vog.* 339.

Somnambulismus, *Sauv.* gen. 221. *Lin.* 77. *Sag.* 333.

Hypnobarafis, *Vog.* 340.

Noctambulatio, *Junck.* 124.

Ephialtes, *Sauv.* gen. 138. *Lin.* 163. *Sag.* 245.

Incubus, *Vog.* 221. *Junck.* 50.

The greatest uneasiness which people feel in sleep is that commonly called the *incubus* or *night-mare*. Those seized with it seem to have a weight on their breasts and about their præcordia. Sometimes they imagine they see spectres of various kinds which oppress or threaten them with suffocation. Neither does this uneasiness continue only while they are asleep; for it is some time after they awake before they can turn themselves in their beds or speak; nay sometimes, though rarely, the disease has proved mortal. The incubus seldom seizes people except when the stomach is oppressed with aliments of hard digestion, and the patient lies on

his back. It is to be cured by eating light suppers, and raising the head high; or, if it become very troublesome, antispasmodic medicines are to be administered, and the body strengthened by chalybeates. The same method is to be followed by those who are subject to walking in their sleep; a practice which must necessarily be attended with the greatest danger: and *somnambulism* may justly be considered as merely a different modification of this disease. Accordingly Dr. Cullen has distinguished the one by the title of *oneirodynia activa*, and the other by that of *oneirodynia gravans*.

CLASS III. CACHEXIÆ.

Cachexiæ, *Sauv.* Class X. *Sag.* Class VIII. *Sag.* Class III.
Deformes, *Lin.* Class X.

ORDER I. MARCORES.

Macies, *Sauv.* Class X. Order I. *Sag.* Class III. Order I.
Emaciantes, *Lin.* Class X. Order I.

GENUS LXIX. TABES.

WASTING of the *Body*.

Tabes, *Sauv.* gen. 275. *Lin.* 209. *Vog.* 306. *Sag.* 100.

This disorder is occasioned by the absorption of pus from some ulcer external or internal, which produces an **HECTIC** fever. The primary indication therefore must be to heal the ulcer, and thus take away the cause of the disease. If the ulcer cannot be healed the patient will certainly die in an emaciated state. But the proper treatment of the tabes proceeding from this cause, falls to be considered under the head of *Ulcer* in **SURGERY**, and likewise under the genera **SIPHYLIS**, **SCROFULA**, **SCURVY**, &c. diseases in which ulcers are at least a very common symptom.

GENUS LXX. ATROPHIA.

NERVOUS CONSUMPTION.

1. *Description.*] This affection consists principally in a wasting of the body, without any remarkable fever, cough, or difficulty of breathing; but attended with want of appetite and a bad digestion.

whence the whole body grows languid, and wastes by degrees. Dr. Cullen, however, asserts, that some degree of fever, or at least of increased quickness of the pulse, always attends this disease.

2. *Causes.*] Sometimes this disease will come on without any evident cause. Sometimes it will arise from passions of the mind; from an abuse of spirituous liquors; from excessive evacuations, especially of the semen, in which case the disease hath got the name of *tabes dorsalis*. It may arise from mere old age, or from famine.

3. *Prognosis.*] This complaint, from whatever cause it may arise, is very difficult to cure, and often terminates in a fatal dropy.

4. *Cure.*] The general principles on which the treatment of this disease is to be regulated, very much depend on the cause by which it is induced; and it is unnecessary to add, that this must be removed as far as possible. Next to this, the disease is most effectually combated by the introduction of nutritious aliment into the system, and by obtaining a proper assimilation and digestion of it. With the first of these intentions, recourse must be had to the diet that is most nutritious, and at the same time of easiest digestion. But from the condition of the stomach commonly attending this disease, it is necessary small quantities only should be taken at a time, and that it should be frequently repeated. With the second intention, stomachic medicines (No. 150. or 153.) are the articles chiefly at least to be depended upon in this case. The Peruvian bark, acid of vitriol, and iron, are excellent; and these should be conjoined with gentle exercise, as far as the strength and other circumstances of the patient will admit: (Vide Form. No. 151. and 152.). In that species of the disease occasioned by venereal excesses, it is so essentially necessary to abstain from them, that without it the best remedies will prove altogether useless. But this is so seldom complied with, that the *tabes dorsalis* almost always proves mortal.

ORDER II. INTUMESCENTIÆ.

Intumescentiæ, *Sauv.* Class X. Ord. II. *Sag.* Class III. Ord. II.
Tumidosi, *Lin.* Class X. Ord. II.

GENUS LXXI. POLYSARCIA.

CORPULENCY.

Polysarcia, *Sauv.* gen. 279. *Lin.* 213. *Vog.* 540. *Sag.* 160.
Steatites, *Vog.* 390.

In a natural and healthy state, the fat, or animal oil, is not al-

lowed to diffuse itself throughout the cellular interstices at large, but is confined to the places where such an oily fluid is necessary, by a particular apparatus of distinct vesicles. But in some constitutions the oily part of the blood appears to exceed the requisite proportion, and easily separates from the other constituent parts; or there is an uncommon tendency to the separation of oily matter. In these cases it is apt to accumulate in such quantities, that we may suppose it to burst those vesicles which were originally destined to hinder it from spreading too far; or almost every cell of the membrana adiposa, many of which are in ordinary cases altogether empty, may be completely filled with fat.

The increase of the omentum particularly, and the accumulation of fat about the kidneys and mesentery, swell the abdomen, and obstruct the motions of the diaphragm; whence one reason of the difficulty of breathing which is peculiar to corpulent people; while the heart, and the large vessels connected therewith, are in like manner so encumbered, that neither the systaltic nor subsultory motion can be performed with sufficient freedom, whence weakness and slowness of the pulse: but when the whole habit is in a manner overwhelmed with an oily fluid, the enlargement of the cellular interstices will necessarily interrupt the general distribution and circulation throughout the nervous and vascular systems; impeding the action of the muscular fibres, and producing insensibility, somnolency, and death.

Dr. Gregory says, he does not know one complaint produced from *thinness*, but that there are a great many from too great a degree of corpulency. These cases are the more deplorable, as there is but little prospect of a cure. For the animal oil is of too gross a nature to be easily taken up by absorption; and we know, that when fluids are accumulated in the cellular system, there are only two ways in which they can be carried off or escape; namely, by the absorbents, which take their rise from the cellular interstices, and through the pores of the skin by transudation.

Another misfortune is, that the disease steals on so imperceptibly, that it becomes inveterate before people begin to think of pursuing the proper means of relief.

In this disease the cure must turn upon two points: First, on preventing the further deposition of fat, by avoiding the introduction of superfluous aliment, particularly of fatty matters, into the system; and, secondly, on promoting and forwarding the absorption of fat. On these grounds, besides what may be done by proper regimen, a variety of articles have been recommended in the way of medicine.

Soap has been proposed as a remedy to melt down and facilitate the absorption of the fat in corpulent people; and Dr. Fleming, some years ago, published a little treatise, wherein he recommends this medicine, and relates the case of a gentleman who is said to

have received considerable benefit from it. But perhaps the soap-leys would be more powerful, and might be more easily taken sheathed, as directed when recommended as a dissolvent of the stone.

Lieutard advises to take *acetum scillæ* in small doses, with frequent purging and brisk exercise. But it will seldom happen that the patients will be found sufficiently steady to persist in any of these courses, it being the nature of the disorder to render them irresolute and inattentive to their condition. Therefore, the principal use of rules must be with a view to prevention; and persons who are disposed to corpulency should take care in time to prevent it from becoming an absolute disease, by using a great deal of exercise, not indulging in sleep, and abridging their meals, especially that of supper. Salted meats are less fattening than such as are fresh; and drinking freely of coffee is recommended to corpulent people.

But Dr. Fothergill observes, that a strict adherence to vegetable diet reduces exuberant fat more certainly than any other means that he knows; and gives two cases wherein this regimen succeeded remarkably well. The famous Dr. Cheyne brought himself down in this way, from a most unwieldy bulk to a reasonable degree of weight; as he himself informs us. It deserves, however, to be remarked, that every practice for the removal or prevention of fatness must be used with great caution and prudence; for not a few, anxious to prevent this affection, have had recourse to a regimen and to a medicine which have proved fatal. This has particularly arisen from the excessive use of acids, probably operating by entirely destroying the action of the chylopoietic viscera.

GENUS LXXII. PNEUMATOSIS.

EMPHYSEMA, or *Windy Swelling*.

Pneumatosis, *Sauv.* gen. 280. *Vog.* 391. *Sag.* 107.

Emphysema, *Sauv.* gen. 13. *Lin.* 288. *Vog.* 392.

Leucophlegmatia, *Lin.* 214.

The emphysema sometimes comes on spontaneously; but more frequently is occasioned by wounds of the lungs, which, giving vent to the air, that fluid insinuates itself into the cellular texture, and often blows it up to a surprising degree. It must be observed, however, that it is only in cases of laceration of the lungs (happening commonly from fractured ribs) where this disease can take place; for in a simple wound, the effusion of blood usually prevents the air from getting out. The cure is to be accomplished

by scarifications and compresses; but in some cases, only by the paracentesis of the thorax. When air introduced from the lungs is collected in a considerable quantity in the cavity of the thorax, the operation of the paracentesis is, perhaps, the only means of cure; though the absorbents are sometimes found to act, to a certain extent, in such cases. Upon an opening being thus made, the air sometimes rushes out with incredible violence; and the patient receives at least immediate relief from circumstances the most distressing imaginable. In some instances it is followed even by a complete cure.

GENUS LXXIII. TYMPANITES,

TYMPANY.

Tympanites, *Sauv.* gen. 291. *Lin.* 219. *Vog.* 316. *Sag.* 118.
Boerb. 226. *Junck.* 87.
 Affectio tympanitica, *Hoffm.* III. 339.
 Meteorismus, *Sauv.* gen. 292.

1. *Description.*] This is an inflation of the abdomen, and is of two kinds: 1. That in which the flatus is contained in the intestines, in which the patient has frequent explosions of wind, with a swelling of the belly frequently unequal. 2. When the flatus is contained in the cavity of the abdomen; in which case the swelling is more equal, and the belly sounds when struck, without any considerable emission of flatus. Of these two, however, the former disease is by much the most common; inasmuch, that many, even extensively engaged in practice, have never met with an instance of true abdominal tympanites. In both cases the rest of the body falls away.

2. *Causes, &c.*] The tympany sometimes takes place in those who have been long troubled with flatulencies in the stomach and intestines. It happens frequently to women after abortion; to both sexes after the suppression of the hæmorrhoids; and sometimes from tedious febrile disorders injudiciously treated.

3. *Prognosis.*] This disease is generally very obstinate, and for the most part proves fatal, by degenerating into an ascites. Sometimes, if the patient be healthy and strong, the disease may terminate favourably, and that the more readily if it has followed some disorder. A hectic consumption, dry cough, and emaciated countenance, in a tympany, with a swelling of the feet, denote approaching death in a very short time.

4. *Cure.*] With a view to the preventing of this affection, it is necessary, in the first place, to avoid, as far as it can be done, causes giving rise to an uncommon extrication of air, by preserving

the proper tone of the alimentary canal. After this affection has taken place, the indications are, first, to expel the air already extricated and confined in different cavities; and, secondly, to prevent further accumulation. On these grounds different remedies are employed. The cure, however, is principally attempted by carminative, resolvent, and stomachic medicines, (No. 53.) or (No. 277.), gentle laxatives, (No. 144.) or (No. 145.); and at last tonics, especially chalybeates, such as (No. 282.) or (No. 286.). In the Edinburgh Medical Essays, vol. I. we have a very remarkable history of a tympany by Dr. Monro, senior. The patient was a young woman of 22 years of age, who fell into the disease after having a tertian ague, in which she was badly treated. She became a patient in the Edinburgh infirmary, the 24th of March, 1730; took several purgatives, and some doses of calomel; used the warm bath; and had antihysterical plaster applied over the whole belly, but with very little effect. She was monstrously distended, insomuch that the skin seemed to be in danger of bursting: her breathing was much straitened; but the swelling sometimes gradually decreased without any evacuation. The returns and degree of this swelling were very uncertain; and, when the belly was most detumefied, several unequal and protuberant balls could be felt over the whole abdomen, but especially at its sides. Her stomach was good, she had no thirst, and her urine was in proportion to the quantity she drank. She was very costive, had her menses at regular periods, but no oedematous swellings appeared in the feet, or any-where else. In this situation she continued from the time of her admission till the 21st of June, during which interval she had her menses only twice.

Throughout this space of time, the following circumstances were observed:

(1) Several times upon the falling of the swelling, she complained of a headach; once of pains throughout all her body, once of a giddiness, twice of a nausea and vomiting, and the last time threw up green bile; and once her stomach swelled greatly, whilst the rest of the abdomen subsided.

(2) During the flowing of the menses she did not swell, but became very big upon their stopping.

(3) Blood-letting and emetics, which were made use of for some accidental urgent symptoms, had no very sensible effect in making the tympany either better or worse.

(4) She never had passage of wind either way, except a little belching some days before the first monthly evacuation.

Some time before the last eruption of the menses, the purgatives were given more sparingly; and antihysterics of the strongest kinds, such as *assafoetida*, *oleum corn. cerv.* &c. mixed with *scap*, were given in large doses, accompanied with the hotter antiscorbutics as they are called, as horse-radish and ginger-root infused in

strong ale with steel. The patient was ordered to use frequent and strong frictions to all the trunk of her body and extremities, and to use moderate exercise. Immediately before the menstrua began to flow, clysters of the same kind of medicines were injected. The menses were in sufficient quantity; but as soon as they ceased, her belly increased in its circumference four inches and a half, but soon subsided. She then complained of pains, which a gentle sweat carried off. Borborygmi were, for the first time, observed on the same day, June 25th; and, having taken some *tinctura sacra* at night, she passed a small quantity of blood next day by stool. This was the first appearance of the return of the hæmorrhoids, to which she had been formerly subject.

The two following days her saponaceous, antihysteric, and antiscorbutic medicines being still continued, she had such explosions of wind upwards and downwards, that none of the other patients would remain in the same room, nay scarce on the same floor, with her. Her belly became less and softer than it had been from the first attack of the disease; her medicines, with a dose of syrup of buckthorn at proper intervals, still were continued, only the proportion of steel was increased; her flatulent discharge went on successfully, and she gradually recovered her former health.

GENUS LXXIV. PHYSOMETRA,

WINDY SWELLING of the Uterus.

Physometra, *Sauv.* gen. 290. *Sag.* 119.

Hysterophyse, *Vog.* 317.

The treatment of this is not different from that of the tympany. It is, however, upon the whole, a very rare disease; and when it takes place, very seldom, if ever, admits of a cure.

GENUS LXXV. ANASARCA.

WATERY SWELLING over the Whole Body.

Anasarca, *Sauv.* gen. 281. *Lin.* 215. *Vog.* 313. *Sag.* 108, *Bærb.* 1225. *Hoffm.* III. 322. *Junck.* 87. *Monro* on the Dropsy. *Millman*, *Animadvertiones de hydropo*, 1779.

Phlegmatia, *Sauv.* gen. 282.

Angina aquosa, *Bærb.* 791.

In this disease the feet first begin to swell, especially in the even-

ing after exercise, and when the patient has stood or sat long; which swelling rises frequently to the thighs. By lying in bed, the swelling becomes less, or even almost disappears. In the progress of the disease, the swelling often rises to the hips, loins, and belly, and at last covers the whole body. This disease, besides the other symptoms afterwards mentioned under Ascites, is attended with a remarkable difficulty of breathing. In the cure of this, as well as other species of dropfy, the general intentions are, first, the evacuation of the water already effused either by natural or artificial outlets; and secondly, the prevention of it from accumulation, which is chiefly to be expected from supporting a due action of the absorbents, and from keeping up a proper discharge by the serous excretories.

The remedies employed with these intentions are much the same with what are employed in curing the more important genus, *ascites*; nevertheless, we shall here give in detail, with some variations, the treatment recommended by Dr. Temple, who lays down the two following indications: *first*, the evacuation of the collected fluid; *secondly*, the removal of the remote causes, or their effects.

The first may possibly be obtained,

(1) By scarifications, which should not be made large, as they may become gangrenous, to which there is always a tendency in his disease.

(2) By blisters, which should be used early, and with caution, for the reasons just mentioned.

(3) By issues, which may be made, under the same precautions, below one or both knees.

(4) By the application of colewort leaves to the legs and thighs, repeated occasionally as they become imbued with moisture.

(5) By bandages applied to the extremities.

(6) By exhibiting the *Digitalis purpurea*, which has done remarkable things in this disease.

(7) By diaphoretics,

(8) By stimulants.

(9) By sialogogues.

(10) By drastic purges.

(11) By emetics; as (No. 266.) or,
(No. 374.) R. Vin. ipecac. ℥iss.

Antim. tartarif. gr. j. m. f. haust. alternis diebus sumend.

Vel (No. 375.) R. Pulv. scill. sicc. gr. iij. ad iv.

Pulv. aromatic. gr. iij.

Sacch. alb. gr. vj.

M. f. pulv. h. f. et mane, quotidie sumend.

Vel (No. 376.) R. Oxy mel. scill. ℥iss.

Vin. antimon. ℥j.

M. f. haust. emetic. secunda quaque die sumend.

Suitable purgatives are,

(No. 377.) \mathcal{R} Pill. e. colocynth. c. \mathfrak{z} j.

Ol. juniper. gtts. ij.

M. f. pilul. v. pro dos. alternis diebus cum regimine fumend.

Vel, (No. 378.) \mathcal{R} Pulv. jalap.

Pulv. scammon. aa gr. xv.

Ol. cinamom. gtt. j. M. f. pulv. purg.

Vel, (No. 379.) \mathcal{R} Pulv. jalap. gr. xv.

Gum. gambog.

Calomel. ppt. aa gr. v.

Ol. menth. eff. gtt. j. M. f. pulv. purg.

Vel, (No. 380.) \mathcal{R} Elaterii gr. j. ad ij. ad iij.

Syr. simp. q. s. ut fiat pilula.

Vel, (No. 381.) \mathcal{R} Chryst. tartari \mathfrak{z} j. ad \mathfrak{z} iss.

Aq. fervent. \mathfrak{t} bj. mane fumend. alternis diebus.

This last is a powerful medicine in dropsy, and acts as a purgative or diuretic, and sometimes in both ways. To direct its operation more certainly to the urinary organs, it will be advisable to give plentifully of tepid liquids after it; or the same effect may be produced by giving the same quantity in divided doses, at short intervals, until the whole is taken.

To promote a diaphoresis is generally a difficult task in this disease. This action of the vessels, however, upon the surface of the body, must be attempted by friction, giving large doses of aq. ammon. acetat. and ordering the patient to wear flannel over the whole body.

Or sweating may be induced by the following means :

(No. 382.) \mathcal{R} Pulv. ipecac. comp. gr. xv. ad \mathfrak{z} j. hora decubitus fumend.

In the process the patient should lie between blankets; the sweating should be kept up twenty-four hours at least, supporting him during the operation by frequent tepid liquids.

The stimulants (No. 154.) or (No. 158.) are also proper under certain circumstances.

In effecting the second indication, we must distinguish between the remote causes which still exist, and those which remain as the effects of those already removed.

(1) Of the first kind are morbid affections of the abdominal and thoracic viscera, intemperance, exposure to a moist atmosphere, and immersion of part of the body in water.

(2) Among the second may be numbered debility, induced by large evacuations, long-continued intermittent fevers, and the use of spirituous liquors, the effects remaining although the practice may be discontinued. Inflammation of internal surfaces.

The diseases of the viscera may be of different kinds, and must be treated in the manner pointed out under the several heads to which they belong.

The debility and loss of tone of the system are to be removed by carefully shunning their causes; by tonic medicines, by exercise, and by supporting the integuments of the lower extremities by bandages. A diligent friction of the legs every morning should be used.

In many cases it will be proper to join diuretics with tonics; in which event, the following formulæ are worth attending to:

(No. 383.) ℞ Decoct. cinchonæ,

Vel, Infus. amar. simp. ℥vj.

Aq. scenic. ℥j.

Kali acetat. ℥ij.

M. f. mist. sumat cochl. iv. ter in die.

Vel, (No. 384.) ℞ Infus. cort. Angustur. ℥iss.

Aq. anethi ℥j.

Tinct. canthar. gtt. xv. ad xxv.

M. f. haust. ter in die sumend.

Vel, (No. 385.) ℞ Pilul. aromat.

Pulv. rhab. aa ℥j.

Pulv. scill. sicc. gr. vj.

Ol. juniperi gtts. vj.

Syr. simp. q. s.

M. f. pill. No. xxiv. quarum capt. iij. bis in die superb. haust. sequent.

(No. 386.) ℞ Infus. quassia ℥iss.

Tinct. cinchonæ ℥j. m. f. haust.

Vel, (No. 387.) ℞ Ferri vitriol.

Myrrh. in pulv. trit.

Extract. cinchonæ aa ℥j.

Kali præp. ℥fs.

Syr. zingiber q. s.

M. f. pil. XLII. dos. ij. adiv. ter quaterve in die,

Vel, (No. 388.) ℞ Myrrh. in pulv. trit. gr. xv.

Ferri vitriol. gr. v.

Kali præp. gr. x.

Aquæ puræ ℥iss.

Tinct. cardamom. ℥iss. m. f. haustus.

The manner of exhibiting the *Digitalis purpurea* is described under HYDROTHORAX.

It may be proper here to notice, that, in anasarca, it is usual to scarify the feet and legs. By this means the water is often discharged: but the operator must be cautious not to make the incisions too deep; they ought barely to penetrate through the skin; and especial care must be taken, by spirituous fomentations and proper digestives, to prevent a gangrene. Dr. Fothergill observes, that the safest and most efficacious way of making these drains is by the instrument used for cupping, called a *scarificator*; and he always orders it to be so applied as to make the little wounds

transversely; as they not only discharge better, but are also longer in healing, than when made longitudinally.

Notwithstanding every precaution, however, gangrene will often ensue; and it is, upon the whole, a much safer practice to evacuate the water by the natural outlets, the valvular lymphatics, absorbents; and with this intention emetics and cathartics, but particularly diuretics, are often employed with success.

GENUS LXXVI. HYDROCEPHALUS.

WATER in the HEAD.

Hydrocephalus, Sauv. gen. 285. *Lin.* 216. *Boerb.* 1217.
Hydrocephalum, Vog. 384.

This differs from the hydrocephalus formerly treated of at some length under the title of apoplexia *hydrocephalica*, chiefly in the water being collected in the external parts of the head, whereas the former is entirely within the skull. In the fifth volume of the Medical Observations we have an account of a very extraordinary case of this kind. The patient was a child only of a few days old and had a tumour on his head about the size of a common tea-cup, which had the appearance of a bladder distended with water near the apex was a small opening, through which a bloody serum was discharged. In other respects the child was healthy. No application was used but a piece of linen dipped in brandy. The tumor continued to increase for many months; at the end of which time, the membrane containing the water appeared equally thick with the other part of the scalp, except one place about the size of a shilling, which continued thin, and at times appeared as if it would burst. He continued in this situation for about seventeen months, when the circumference of the head was 20 inches, the base $16\frac{1}{2}$, the middle $18\frac{1}{2}$, and from the base to the apex near $8\frac{1}{2}$. The water was then drawn off, and the child died in two days. Almost all other cases of this description have proved fatal; the sutures of the skull generally give way, and the whole external part of the head is equally enlarged. but in the instance just now given, there was a deficiency of part of the bones. Although, however, in some instances where the head is thus enlarged to an enormous size, the water is exterior to the brain, and therefore entitled to the appellation of hydrocephalus exterior, yet much more frequently in those instances where there is a manifest separation of the bones of the cranium at the sutures, the water is still contained within the ventricles; and accordingly the disease may be much more properly distinguished into the *acute* and *chronic* hydrocephalus, than, as is commonly done, into the *internal* and

eternal. Although the latter be much slower in its progress, sometimes subsisting even for years, yet it is equally difficult of cure with the former, and very often it proves fatal in a few days, if the water be drawn off by an artificial opening, which may be very easily performed by a mere puncture with a common lancet, without either pain or any immediate hazard from the operation itself, although the water be lodged in the ventricles; for these are attended to an enormous size, and the substance of the brain almost totally destroyed, so that hardly any thing is to be punctured but membranes.

GENUS LXXVII. HYDRORACHITIS.

SPINA BIFIDA.

Hydrorachitis, *Sauv.* gen. 287. *Morgagn.* de sed. XII. 9. *et seq.*
 Spinola, *Lin.* 289.
 Spina Bifida, *Vog.* 386.

This disease, which consists in a soft tumor on the lumbar vertebræ, attended with a separation of the vertebræ, though generally considered as approaching to the nature of rachitis, is commonly referred to the surgeon; who ought certainly to be consulted with regard to this affection, in its earliest stage. See the remarks on this disease in vol. IV.

GENUS LXXVIII. HYDROTHORAX.

DROPSY of the BREAST.

Hydrothorax. *Sauv.* gen. 150. *Vog.* 311. *Boerb.* 1219.

This affection, particularly with respect to its causes, is in many circumstances similar to other kinds of dropsy, particularly to ascites. But from the situation of the water, which is here deposited in the cavity of the thorax, it may naturally be supposed that some peculiar symptoms will occur. Besides the common symptoms of dropsy, paleness of the countenance, scarcity of urine, and the like, this disease is, in some instances, attended with a fluctuation of water within the breast; which, when it does occur, may be considered as a certain distinguishing mark of this affection. But besides this, it is also distinguished by the remarkable affections of circulation and respiration with which it is attended. The breathing is peculiarly difficult, especially in a recumbent posture; and in many instances patients cannot breathe with con-

terable ease, unless when sitting erect, or even stooping somewhat forwards. The pulse is very irregular, and has often remarkable intermissions. But the disease has been thought to be principally characterised by a sudden starting from sleep, in consequence of an almost inexpressible uneasy sensation referred to the breast, attended with strong palpitation, which may probably arise from an affection either of the circulation or of respiration.

That these symptoms are common attendants of this disease, is undeniable; and they are certainly the best characteristics of the affection with which we are yet acquainted: but it must be allowed that they are present in some cases where there is no water in the breast; and that in other instances where the disease exists, they are either altogether wanting, or occur only in a very slight degree. Certain diagnostics, therefore, of this disease still remain to be discovered.

When hydrothorax is present from the affection of the vital functions with which it is attended, it may readily be concluded that it is a dangerous disease, and in many instances it proves fatal. The cure, as far as it can be accomplished, is obtained very much on the same principles as in other dropsies. Here, however, probably from the uncertainty of the diagnostics, the artificial abstraction of water, by paracentesis of the thorax, is less frequently had recourse to than in ascites; though in some instances, after other means have failed, it has been said not only to give relief of symptoms highly urgent, particularly dyspnoea, but even to produce complete cure. Benefit is often obtained from an artificial discharge of water by the application of blisters to the breast: but this, as well as other dropsies, a discharge is chiefly effected by the natural outlets, particularly from the use of cathartics and diuretics. In this species of dropsy, more perhaps than in any other, recourse has been had to the use of the *digitalis purpurea*, or fox glove, strongly recommended as a diuretic, by Dr. Withering, in his treatise respecting the use of it. There can be no doubt that this article, though sometimes productive of inconvenience from the distressing sickness and severe vomiting which it not unfrequently excites, though used even but in small doses, often operates as a powerful diuretic, and produces a complete evacuation of water after other medicines have failed. From the effects mentioned above, however, as well as from its influence on the pulse, which it renders much slower, it is necessary that it should be employed with great caution, and in small doses. A dram of the dried leaves of the *digitalis*, macerated for four hours in half a pint of warm water, forms an infusion which may be given in doses of one or two ounces, and the dried powder of the leaves in doses of one or two grains; these doses may be gradually increased, and repeated twice or oftener in the day; but this requires to be done with great caution, lest severe vomiting, or other symptoms, should take place.

Dr. Saunders gives this medicine in the following forms :

(No. 389.) R Digital. herb. exsiccat. in pulv. trit. gr. j.

Crystal. tartar. ʒss.

Pulv. aromat. gr. iij. M.

Fiant pulveres sex hujusmodi, quorum sumatur unus bis terve de die.

(No. 390.) R Digital. herb. exsiccat. gr. x.

Confect. opiat. q. s. ut fiant pilulæ decem.

Sumat unam vel alteram bis in die.

(No. 391.) R Digital. herb. exsiccat. ʒj.

Aquæ fervent. ʒviii.

Macera per horæ sextam partem, et liquori cum expressione colato addè,

Tinct. cardam. comp. ʒj.

Capiat unciam unam bis die.

GENUS LXXIX. ASCITES.

DROPSY of the ABDOMEN.

Ascites, *Sauv.* gen. 288. *Lin.* 217. *Vog.* 314. *Sag.* gen. 115. *Boerb.* 1226. *Hoffm.* III. 322. *Junck.* 87. *D. Monro* on the Dropsy, 1765. *Milman*, Animadversiones de Hydrope, 1779.

1. *Description.*] This disease assumes three different forms :—

1) When the water immediately washes the intestines. (2) When it is interposed between the abdominal muscles and peritonæum. Or (3), when it is contained in sacs and hollow vessels ; in which case it is called the *encysted dropsy*. Some physicians of great reputation have asserted, that the water was often placed within the duplicature of the peritonæum ; but this is alleged by Dr. Milman to be a mistake, as that membrane is looked upon by the best anatomists to be single ; and he thinks that the above-mentioned physicians have been led into this error from observing the water collected in the cellular substance of the peritonæum.

In the beginning of an ascites the patient becomes languid, breathless, and has an aversion to motion ; his belly swells ; and when struck, the sound of fluctuating water is perceptible ; there is a difficulty of breathing when his belly is pressed. There is an almost continual thirst, which in the progress of the disease becomes very urgent ; the urine is thick, in small quantity, and red. The pulse is small and frequent ; and as the belly swells, the other parts waste away. A fever at last arises, which, constantly increasing, in the end carries off the patient. These symptoms are most ur-

gent where the waters are in immediate contact with the intestines; in the other kinds the rest of the body is less affected, nor is there so great thirst or difficulty of breathing.

2. *Causes, &c.*] The immediate cause of dropsy is a greater effusion of serum by the exhalant arteries than the absorbents take up. This may be occasioned either by too great a quantity of liquid thrown out by the former, or by an inability of the latter to perform their office. This commonly happens in people whose bodies are of a weak and lax texture, and hence women are more subject to this malady than men; chlorotic girls especially are very apt to become dropsical.

Sometimes, however, this disease is occasioned by a debility of the vital powers, by great evacuations of blood, or by acute diseases accidentally protracted beyond their usual period; and although this cause seems very different from a laxity of fibres, yet the dropsy seems to be produced in a similar manner by both. For the vital powers being debilitated by either of these causes, naturally bring on a certain debility and laxity of the solids; and, on the other hand, a debility of the solids always brings on a debility of the vital powers; and from this debility of the vital powers in both cases, it happens that those humours which ought to be expelled from the body are not, but accumulate by degrees in its cavities. There is, however, this difference between the two kinds of dropsy, arising from these two different causes:—That in the one which arises from laxity, the solid parts are more injured than in that which arises from a debility of the vital powers. In the former, therefore, the water seems to flow out from every quarter, and the body swells all over. But when the disease is occasioned by a debility of the vital powers, though the solids be less damaged, yet the power of the heart being much diminished and the humours scarce propelled through the extreme vessels, the thin liquids by which, in a healthy state, the body is daily recruited, are carried by their own weight either into the cavities or into the cellular texture. Hence those aqueous effusions which follow great evacuations of blood, or violent loosenesses, begin in the more depending parts of the body, gradually ascending, till they arrive at the cavity of the abdomen, or even the thorax.

But another and much more sufficient cause for the production of dropsy, is an obstruction of the circulation: and this may take place from polypi in the heart or large vessels, and hard swellings in the abdomen. Instances have been observed of a dropsy arising from steatomatous tumors in the omentum, and many more from a scirrhus liver or spleen, and from an infarction and obstruction of the mesenteric glands, by which means the lymph coming from the extremities is prevented from arriving at the heart. Scirrhus of the liver, the most common cause of ascites, probably operates by augmenting effusion in consequence of its preventing

the return of the venous blood, the greater part of the veins from the abdomen going to the formation of the vena portarum.

Lastly, whatever, either within or without the vessels, contracts or shuts up their cavities, produces a more copious and easy transmission of the thin humours through the exhalant arteries, at the same time that it prevents their return by the absorbent veins. This has been established by experiment. For Lower having perforated the right side of the thorax in a dog, tied the *vena cava*, and sewed up the wound. The animal languished for a few hours, and then died. On dissection, a great quantity of serum was found in the abdomen, as if he had long laboured under an ascites. In like manner, having tied the jugular veins of another dog, a surprising swelling took place in those parts above the ligatures, and in two days the creature died. On dissection, all the muscles and glands were vastly distended, and quite pellucid, with limpid serum. From these experiments, and some cases of the disease mentioned by different authors, it appears, that when the veins are obstructed so that they cannot receive the arterial blood, the serum is separated, as by a filtre, into the more open cavities and laxer parts of the body, while the thicker part stagnates, and is collected in the proper blood vessels.

The too great tenuity of the humours is very frequently deemed the cause of dropsy, and many authors have asserted that dropsy might arise merely from a superabundance of water in the blood. For this, some experiments are quoted, from which they would infer, that when a great quantity of aqueous fluid is introduced into the blood, the superfluous fluid ought by no means to pass through the extremities of the sanguiferous arteries into the veins, in the common course of circulation, but by being effused into the cavities should produce a dropsy. But this can only happen when the vital powers are very much diminished; for, in a natural state, the superfluous quantity is immediately thrown out by the skin or the kidneys: and agreeably to this we have an experiment of Schultzius, who induced a dropsy in a dog by causing him to drink a great quantity of water; but he had first bled him almost *ad deliquium*, so that the vital powers were in a manner oppressed by the deluge of water. In this manner do those become hydropic who are seized with the disease on drinking large quantities of water, either when wearied with labour, or weakened by some kinds of disease. Dr. Fothergill relates an instance of a person who, being advised to drink plentifully of barley-water, in order to remove a fever, rashly drank twelve pounds of that liquor every day for a month, and thus fell into an almost incurable distemper. But if this quantity had been taken only during the prevalence of the fever, he would, in all probability, have suffered no inconvenience, as is probable from what has been related concerning the *diata aquea* used by the Italians.

It is, moreover, evident from experiments, that, in a healthy state, not only water is not deposited in the cavities, but that if it is injected into them it will be absorbed, unless some laxity of the solids has already taken place. Dr. Musgrave injected into the right side of the thorax of a dog four ounces of warm water; whence a difficulty of breathing and weakness immediately followed. But these symptoms continually lessened, and in the space of a week the animal seemed to be in as good health as before. Afterwards he injected sixteen ounces of warm water into the left cavity of the thorax in the same dog; the same effects followed, together with great heat, and strong pulsation of the heart; but he again recovered in the space of a week. Lastly, he injected eighteen ounces of water into one side of the thorax, and only six into the other: the same symptoms followed, but vanished in a much shorter time; for within five days the dog was restored to perfect health. During this time, however, he observed that the creature made a greater quantity of urine than usual.

The remote causes of dropsy are many and various. Whatever relaxes the solids in such a manner as to give an occasion of accumulation to the serous fluids, disposes to the dropsy. A lazy indolent life, rainy wet weather, swampy or low soil, and every thing which conduces to weaken the viscera, or insensibly to produce obstructions in them, paves the way for a dropsy. Hence those are ready to fall into the disease who use hard and viscid aliments, such as poor people, in some countries, who use coarse brown bread, and children who are fed with unwholesome aliments; and the same thing happens to those who drink immoderately of spirituous liquors.

3. *Prognosis.*] When the dropsy arises from a scirrhus of the liver or spleen, or any of the other viscera, the prognosis must always be unfavourable, and also when it arises from disorders of the lungs. Neither is the case more favourable to those in whom the small vessels are ruptured, and pour out their liquids into the cavity of the abdomen. Those certainly die who have polypi in the vessels, or tumors compressing the veins and vessels of the abdomen. A dropsy arising from obstructions in the mesenteric glands is likewise difficult to cure, whether such obstructions arise from a bad habit of body, or from any other cause; if we can, however, by any means remove the disease of the glands, the dropsy easily ceases. But in those who fall into dropsy without any disease preceding, it is not quite so dangerous; and even though a disease has preceded, if the patient's strength be not greatly weakened, if the respiration be free, and the person be not affected with any particular pain, we may entertain great hopes of a cure. But where a great loss of blood is followed by a fever, and that by a dropsy, the patients almost always die, and that in a short time: those, however, are very frequently cured who fall into this disease without any preceding hemorrhagy.

4. *Cure.*] In the cure of this disease authors chiefly mention two indications; (1) To expel the superfluous quantity of water; and, (2) To prevent its being again collected.

But before we proceed to speak of the remedies, it is necessary to take notice, that by the animal economy, if a great evacuation of a fluid takes place in any part of the body, all the other fluids in the body are directed towards that part, and those which lie, as it were, lurking in different parts will be immediately absorbed, and thrown out by the same passage. Hence the humours which in hydropic persons are extravasated into the different cavities of the body will be thrown into the intestines, and evacuated by purgatives; or by diuretics will be thrown upon the kidneys, and evacuated by urine. It is, however, not only necessary to excite these evacuations in order to remove this malady, but they must be assiduously promoted and kept up till the abundant humour is totally expelled. For this reason Sydenham has advised purgatives to be administered every day, unless, either through the too great weakness of the body, or the violent operation of the purgative, it shall be necessary to interpose a day or two now and then; because if any considerable intervals be allowed to take place between the exhibition of the purgatives, an opportunity is given to the waters of collecting again. In this method, however, there is the following inconvenience, that, when the waters are totally evacuated, the strength is at the same time so much exhausted, that the disease commonly returns in a very short time. Hence almost our only hopes of curing a dropsy consist in gently evacuating the waters by means of diuretics. But the efficacy of these is generally very doubtful. Dr. Freind hath long ago observed, that this part of medicine is of all others the most lame and imperfect; but a French physician, Mr. Bacher, discovered, as he alleges, a method of making the diuretics much more successful. His reputation in this way became so great indeed, that the French king thought proper to purchase his secret for a great sum of money. The basis of his medicine was hellebore-root, the offensive qualities of which he attempted to correct in the following manner: A quantity of the dried roots of black hellebore were pounded, and then put into a glazed earthen vessel, and afterwards sprinkled with spirit of wine. They were suffered to stand for twelve hours, stirring them about twice or thrice during that space of time. They were then sprinkled again, and at last good Rhenish wine was poured on till it stood six fingers above the roots. The mixture was frequently agitated with a wooden spatula: and as the wine was imbibed by the roots, more was poured on, so as to keep it always at the same height for forty-eight hours. The whole was then put on the fire and boiled for half an hour, after which the decoction was violently pressed out; the same quantity of wine was added as at first, and the mixture boiled as before. After the

second expression the woody residuum was thrown away as useless. Both the strained liquors are then mixed together with two parts of boiling water to one of the decoction. The whole is afterwards evaporated in a silver vessel to the consistence of a syrup. One part of the extract is again added with two parts of boiling water, and the whole inspissated as before.—By this means, says he, the volatile nauseous acrid particles are separated by evaporation, and the fixed ones remain corrected and prepared for medicinal uses; adding, towards the end, a ninth part of old brandy, and evaporating to the consistence of turpentine. Mr. Bacher reasons a good deal on the way in which this process corrects the medicine; but tells us, that, notwithstanding the improvement, his pills will not have the desired effect unless properly made up. For forming them, they ought to be mixed with matters both of an inviscating and indurating nature; yet, so prepared that it will be readily soluble in the stomach, even of a person already debilitated. For answering these purposes, he chose myrrh and carduus benedictus, and then gives the following receipt for the formation of his pills.

“Take the extract of bellebore prepared as above directed, and of solution of myrrh, each one ounce; of powdered carduus benedictus three drachms and a scruple. Mix them together, and form into a mass, dividing it into pills of a grain and an half each.” To these pills Mr. Bacher gives the name of *pilulæ tonicæ*, from an idea, that while they evacuate the water, they at the same time act as tonics; and that, from augmenting the action of the lymphatics, they prevent the return of the disease. Indeed, if both these intentions could be effectually answered by the use of the same remedy, it would unquestionably be of great importance in practice.

The effects of these pills were, we are told, very surprising. Dr. Daignan relates, that he gave them to eighteen hydropic patients at once; and these he divided into three classes, according to the degree of the disease with which they were affected. The first class contained those who laboured under an anasarca following intermittent fevers. The second class contained those who had an anasarca, together with some degree of ascites, arising from tedious febrile disorders. All these were cured; but these two classes consisted of such cases as are most easily removed. But the third contained six who were seized with a most violent anasarca and ascites after being much weakened by tedious disorders, and of consequence in whom the disease was very difficult to be cured. Even of these, however, four were cured, and the other two died. The body of one of these being dissected, both sides of the cavity of the thorax were found to be full of a blackish red water. The lungs were unsound; there was a polypous concretion in the right ventricle of the heart; the liver and spleen were hard, and of a preternatural bulk; and the glands of the mesentery were

obstructed and infarcted. In the other, the liver and pancreas were scirrhus, and the spleen very hard.

The same medicines were given by De Horne to eight persons, six of whom had both an anasarca and ascites, but the other two only an ascites. Four of these recovered; three died without being freed from the dropsy; one in whom the dropsy was cured died in a short time after, having for some time before his death become speechless.

By these patients ten of the pills were taken at once; and the same dose repeated to the third time, with an interval of an hour betwixt each dose. At first they proved purgative, and then diuretic; by which last evacuation they finally cured the disease. But though Mr. Bacher was firmly of opinion that his pills cured the dropsy by reason of the above-related correction; yet it is certain that, in the hands of other practitioners, these very pills have failed, unless they also made use of the same regimen recommended by that physician; while, on the other hand, it is also certain, that different medicines will prove equally efficacious in dropical cases, provided this regimen is made use of.

For a great number of ages it has been recommended to dropical patients to abstain as much as possible from drink, and thus to the torments of their disease was added that of an intolerable thirst; and how great this torment was we may understand from an example of a friend of king Antigonus, who, having been closely watched both by order of the physicians and also of the king, was so unable to bear the raging thirst occasioned by his disease, that he swallowed his own excrements and urine, and thus speedily put an end to his life. Dr. Milman shews, at great length, the pernicious tendency of this practice. He maintains that it is quite contrary to the sentiments of Hippocrates and the best ancient physicians. He asserts, that unless plenty of diluting drink be given, the best diuretics can have no effect. He condemns also in the strongest terms the practice of giving dropical patients only dry, hard, and indigestible aliments. These would oppress the stomach even of the most healthy; and how much more must they do so to those who are already debilitated by labouring under a tedious disorder? By what means also are these aliments to be dissolved in the stomach when drink is withheld? In this disease the saliva is viscid, and in small quantity; from whence it may be reasonably conjectured, that the rest of the fluids are of the same nature, and the gastric juices likewise depraved. Thus the aliments lie long in the stomach; and if the viscera were formerly free of obstructions, these are now generated; the strength fails; perspiration and other excretions are obstructed; the viscid and pituitous humours produced by these kinds of food float about the præcordia, and increase the disease, while the surface of the body becomes quite dry. Nay, so much does this kind of diet conspire with the

disease, that 100 pounds of fluid will sometimes be imbibed in a few days by hydropic persons who take no drink. Even in health, if the body from any cause becomes dry, or deprived of a considerable part of its juices, as by hunger, labour, &c. it will imbibe a considerable quantity of moisture from the air; so that we must impute the above-mentioned extraordinary inhalation, in part at least, to the denial of drink, and to the nature of the aliment given to the sick. The following is the account given by Dr. Milman of his practice in the Middlesex hospital.

If the patient be not very much debilitated, he is sometimes treated with the purging waters, and a dose of jalap and calomel alternately. On the intermediate days he gets a saline mixture, with forty or sixty drops of *acetum scilliticum* every sixth hour; drinking with the purgatives oat-gruel and some thin broths.— That he might the better ascertain what share the liquids given along with the medicines had in producing a copious flow of urine, he sometimes gave the medicines in the beginning of the disease without allowing the drink: but though the swellings were usually diminished a little by the purgatives, the urine still continued scanty, and the patients were greatly weakened. Fearing, therefore, lest, by following this course, the strength of the sick might be too much reduced, he then began his course of diuretic medicines, giving large quantities of barley-water with a little *sal diureticus*; by which means, sometimes in the short space of forty-eight hours after the course was begun, the urine flowed out in very large quantity; but as the saline drinks are very disagreeable to the taste, a drink was composed purposely for hydropic persons, of half an ounce of cream of tartar dissolved in two pounds of barley-water, made agreeably sweet with syrup, adding one or two ounces of French brandy.

To this composition Dr. Milman was induced by the great praises given to cream of tartar by some physicians in hydropic cases. In the *Acta Bononiensia*, fifteen cases of hydropic patients are narrated who were cured only by taking half an ounce of cream of tartar daily. But it is remarkable, that by these very patients the cream of tartar was taken for 20, 30, nay 40 days, often without any perceptible effect; yet when dissolved in a large quantity of water, it shewed its salutary effects frequently within as many hours, by producing a plentiful flow of urine. This liquor is now the common drink of hydropic patients in the hospital above mentioned, of which they drink at pleasure along with their medicines.

Among purgative medicines, Dr. Milman recommends the *radix senecæ*; but says the decoction of it, according to the Edinburgh Pharmacopœia, is too strong, as he always found it excite vomiting when prepared as there directed, and thus greatly to distress the patients: but when only half an ounce or six drachms of

the root are used to a pound of decoction, instead of a whole ounce as directed by the Edinburgh college, he finds it an excellent remedy; and though it may sometimes induce a little vomiting, and frequently a nausea, yet it seldom failed to procure nine or ten stools a-day, and sometimes also proved diuretic. But we must take care not to be too free in the use of seneka, or any other purgative, if the patients be very weak; and therefore, after having used purgatives for some time, it will be proper to depend upon diuretics entirely for perfecting the cure; and of the success of this method our author gives some very remarkable instances. But he observes, that after the dropsy is removed, the patients will sometimes die without any evident cause; and of this it is proper that the physician should be aware. It is remarkable with what ease; flux of urine is induced in those who have a scirrhus liver; while, on the other hand, in one who had the mesenteric glands obstructed, along with a scirrhus of the liver and vitiated state of the lungs, the most powerful diuretics proved ineffectual. In some cases Dr. Milman thinks the kidneys may be so pressed with the weight of the water, as to be unable to perform their office. With regard, however, to diuretics in general, it may be remarked, that the operation of none of them can be certainly depended upon. In particular constitutions, and at particular times, one will be observed to succeed after another (though commonly of much greater power) has been tried in vain. Accordingly various articles of this kind are often used in succession. Recourse is particularly often had to the roots of *taraxacum*, of *colchicum*, and of *squills*; the latter, especially when combined with calomel, is often found to be a very powerful diuretic. And indeed mercury in different forms, probably from acting as a deobstruent, is often of very great use in dropical complaints. Among other diuretics, the *lactuca virosa* has been highly extolled by Dr. Collins of Vienna, and the *nicotiana tabacum* by Dr. Fowler of York: but neither has been extensively introduced into practice, although we have known some instances in which the latter has been used with great advantage.

The water having been drawn off, we are to put the patient on a course of strengtheners; such as the Peruvian bark, with some of the warm aromatics, and a due proportion of rhubarb infused in wine, and chalybeates. Gentle exercise, and frictions on the belly, with such a course of diet as shall be light and nourishing, are also to be enjoined: and it may be observed, that the use of tonic medicines is by no means to be delayed till a complete evacuation of the water can be obtained. On the contrary, by alternating, and even combining the use of evacuants and tonics, the influence of both is often very much promoted.

Dr. Saunders speaks of the treatment in the following way. He

says, the cure of dropsy chiefly depends on the proper use of evacuations.

The most effectual means of discharging water from the different cavities of the body, but more especially in the *Ascites*, are,

(1) By purging and vomiting.

(2) By the exhibition of diuretics.

Of the former description are,

(No. 392.) ℞ Elaterii gr. iij.

Cryſtal. tartar. ℥j.

Simul in pulverem tenuem terantur, et adde

Conf. Aurant. cort. q. s.

Fiat Bolus mane primo, bis in hebdomadâ, ſumendus.

(No. 393.) ℞ Gambog. in pulv. trit. gr. v.

Cryſtal. tartar. ℥j.

Conf. Aurant. cort. q. s.

Fiat Bolus, diluculo ſumendus.

(No. 394.) ℞ Pulv. ipecacuanh. gr. xv.

Antim. tartar. gr. j. M. ut fiat Pulvis emeticus.

Ex pauxillo liquoris alicujus idonei vespere hauriatur, et, vomitu moto, ſuperbibantur cyathi aliquot infuſi tepidi ſorum chamæmeli.

(No. 395.) ℞ Pulv. rad. Jallap.

Cryſtal. tartar. ſing. ʒſs.

Pulv. aromat. gr. v. Miſce.

Sit Pulvis catharticus, mane ex ſero lactis a jejuno excipiendus.

As diuretics, the following may be employed according to circumſtances :

(No. 396.) ℞ Kali acetat. ʒij.

Aq. menth. pip. ʒiſs.

Sp. Lavend. comp. gutt. xxx.

Fiat Hauſtus ter in die capiendus.

(No. 397.) ℞ Scillæ recens exſiccata. gr. iv.

Cryſt. tartar. ℥j. M.

Sit pulvis, nocte manequē ſumendus ex ſeri lactis poculo.

(No. 398.) ℞ Conf. Scillæ ʒſs.

Calomelan. gr. ij.

Opii purif. gr. ſs.

Fiat Bolus omni nocte per hebdomadam ſumendus.

(No. 399.) ℞ Tinct. ſcillæ ʒj.

Dofis a guttis viginti uſque ad ſexaginta.

In ſome caſes the doctor adviſes the following :

(No. 400.) ℞ Ammoniac. gum. in pulv. trit.

Scillæ recent. ſing. ʒſs.

Simul contunde, ut ſiant pilulæ duodecim. Sumat tres, bis terve quotidie.

[No. 401.] R. Lact. ammoniac. ℥v.

Oxymel. scillæ

Tinct. opii camph. sing. ℥ss. M.

Capiat cochlearia duo, sexta quaque hora.

To the practice of the different physicians of eminence whose names have been already mentioned, we shall annex an account of the treatment recommended by Dr. Magennis.

"In the cure of every species of dropsy," says the doctor, "practitioners in general have two indications in view, that of evacuating the superabundant fluid in the first instance; and, secondly, to guard against its further accumulation. To accomplish these desirable ends, recourse is almost invariably had to the operation of drastic purges, frequently exhibited and repeated, such as seneka, op and calomel, the neutral salts, and the occasional use of diuretics. When by a due perseverance in these means, the water is totally or in great measure expelled, different tonics, as bark, iron, and bitters, are employed to restore the lost tone of the constitution, and confirm the cure. But although this treatment may have frequently succeeded in removing the disorder in question, yet there is great reason to believe that it has been only in young and naturally robust habits, where the complaint was of recent standing, and not depending on any previously existing distemper. For, we are to consider dropsy as a disease commonly of high debility, and consequently of diminished excitement, whether originally produced by profuse evacuations of blood, suddenly inducing a considerable diminution of the vital powers, or by long-protracted acute diseases, or other causes occasioning a general atony and relaxation of the fibres, we shall naturally and justly be led to conclude, that these violent evacuant remedies have rather a tendency to increase the malady by still further exhausting the excitability or sensorial power, than to remove it.

"That this practice is often attended with great danger, and sometimes with fatal consequences, we have the testimony of Dr. Milman, who says, that after the dropsy is removed, the patients will sometimes die without any evident cause; and again, this respectable author observes, that we must take care not to make too free with the use of purgatives if the patient be weak. I might ask the doctor with much propriety, if he had ever met an instance of dropsy, ascites, or anasarca, as a general disease, that was not accompanied with and preceded by great debility? Notwithstanding these cautions, and their manifest propriety, the doctor however depends, as Sydenham and others did before him, chiefly on the good effects of purgatives; for he speaks, among other things, of the advantages arising from a decoction of seneka, procuring nine or ten stools a-day. Sydenham advises cathartics to be administered every day, unless through the too great weakness of the body, or the violent operation of the purgative, it shall

be necessary to interpose a day or two now and then; because, he says, if considerable intervals be allowed to occur between the exhibition of the purgatives, the water will be afforded an opportunity of again collecting.

"A careful and diligent investigation into all the phenomena attending dropsy, will convince every impartial and unbiassed observer, that it is always a disease of diminished, and never of increased excitement; unless when excitement is pushed beyond its due bounds into indirect debility, as is frequently the case with men who indulge too freely in the luxuries and conviviality of the table, whose dissolution is not unusually preceded by this very disease: but still debility, whether of the direct or indirect species and however induced, must precede and accompany it throughout all its stages.

"If this view of the question be just, and founded on accurate observations deduced from the phenomena known invariably to attend the disease, how many lives, then, must annually have fallen a sacrifice to the common but mistaken practice? a practice grounded on false and erroneous theory; a practice which, instead of opposing the destructive tendency of the disease, is in direct unison with it; an accredited error sanctioned by ages, and maintained on the authority of great names, but which will be discarded the moment we have courage to reason from effects to causes, and to consider real facts divested of the influence of splendid but illusive systems. I am unacquainted with any cause which has operated more powerfully against the extension and improvement of medical science, than implicit confidence in certain illustrious names and systems of physic: the mind resting with a kind of fatal security on the supposed truths of those oracles, suspends its own inquisitive propensities and energies, thereby effectually shutting up all avenues to enquiry and investigation.

"Convinced by experience of the *inefficacy and pernicious consequences of employing evacuant and debilitating remedies* for the cure of a disease depending on atony and relaxation, more especially of the vascular system, I pursued a course diametrically opposite. I endeavoured to support and invigorate my patients by the most powerful and permanent stimuli, both with respect to medicines and diet; and with these were joined active diuretics, in order to stimulate the kidneys and determine the serous fluid to those passages. In short, to strengthen the habit, to restore the energy and lost tone of the vascular system, to promote absorption, and finally to expel the serous collections from the body, were the ends proposed: how far I succeeded will be best seen by a narrative of the following cases.

"Case I. It is to be confessed that I began the treatment of this case on the old plan. James Griebel, a French prisoner, a young man 28 years of age, was admitted into the hospital at Ne-

man Cross on the 3d of November, 1799; he dated the commencement of his complaint about three weeks before, occasioned probably by poverty and want. On examination, I found the abdomen very much enlarged, with evident fluctuation; the legs much swelled and œdematous, easily receiving and retaining a long time every impression; a quick, small pulse, a dry tongue, parched skin, great thirst, passed little or scarcely any urine; a short troublesome cough; difficult respiration, so much so that he was obliged to keep in a half erect posture whenever he slept; a fallow, emaciated countenance, with large blotches and scabby eruptions all over the body. He was immediately ordered a brisk cathartic of jalap and calomel, which procured several copious stools and relieved his breathing. On the 5th the symptoms became equally oppressive and distressing. Rep. cathar. with similar effects, though less permanent. 6th, All the symptoms recurred with additional violence, the patient being considerably reduced. Ordered this day a diuretic mixture, Aq. menth. kali. acet. et tin. scillæ. Passed no water except when at the water-closet, and then even very scantily. 8th, Several watery evacuations by the anus yesterday; notwithstanding which, the legs, thighs, and abdomen, were more enlarged than ever, with extreme debility and emaciation. It now became evident that the patient would speedily sink, unless relieved by other means. Under this idea he began the following mixture:

(No. 402.) ℞ Aq. menth. ℥vj.

Ferr. vitriol.

Kali.

Myrrh. an. ʒj.

Tin. scillæ.

Spt. æth. nit. aa. ʒiss.

Tinct. opii. gt. xl. Sumat cochl. iij. 4is. horis.

At the same time he was ordered a pint of red wine, and nourishing diet in small quantities frequently repeated. 9th and 10th, No alteration. On the 11th he made considerably more water, but he was still greatly debilitated. 12th and 13th, The evacuations by the kidneys much increased, spirits better, strength amended. 15th, Much better. The power of the mixture augmented. 17th, Quantity of urine now daily 5 pints. 18th, Increased to 6 pints, of a dusky brown colour with much sediment; treatment the same; all the bad symptoms greatly abated; the legs, thighs, and abdomen, considerably reduced; respiration much relieved, thirst gone, appetite good; in short, he was wonderfully amended. 23d, Almost free from complaint, passed daily 6 pints and upwards of urine. His medicines and treatment continued the same till the 30th, at which time he was perfectly restored to health; and on the 4th of December he was discharged to prison, having passed during the last 15 days near 90 pints of water, besides what was lost during operations by the anus. It

is worthy of remark, that the tone and vigour of the fibres of the intestinal canal were by this time so completely restored, that he was obliged to take apertients twice, on the 24th and 29th. The scabby eruptions had at first much the appearance of being a species of itch; but before the 30th the skin was wholly cleared from them."

"Case II. John Colquhoun, aged 42 years, a seaman belonging to his Majesty's ship *Le Pompée*, was admitted into the Royal Hospital at Plymouth, on the 4th of June last, labouring under universal anasarca; his legs and thighs were so astonishingly distended, that it was with the utmost difficulty he could stand; great prostration of strength, dejection of spirits, a troublesome cough with expectoration, thirst, difficult respiration, pain about the scrob. cordis, loss of appetite, profuse diarrhœa; passes no urine except at stool, and then only a few drops at a time. The history of the case previous to admission: He had been affected with cough at least twelve months; the swellings of the extremities began about five weeks before I saw him, and the diarrhœa was chiefly occasioned by the purgatives employed to remove the dropsy; he was, upon the whole, much emaciated and reduced. The state of his bowels became the first object of my care; and having by the use of the cretaceous mixture, tinct. catechu and opium, almost removed this complaint, he began the following mixture on the 7th:

(No. 403.) ℞ Ferr. vitriol. gr. xv
 Kali et Myrrh. aa. ʒj.
 Aq. menth. ʒvj.
 Tinct. scillæ,
 Spt. æther. nitr. aa. ʒjss.
 Tinct. opii gtt. lx.

M. capt. cochl. iij. 4is horis.

"This treatment was continued till the 11th, with little amendment, for which reason the mixture was augmented in strength, wine given, and a nourishing diet and drink without restriction. 13th, The discharge of urine considerable. 20th, The quantity amounted to about 5 pints, and continued to increase daily. 26th, The strength of the mixture still further augmented thus:

(No. 404.) ℞ Ferr. vitriol. ʒij.
 Kali et Myrrh. a. ʒijss.
 Tinct. scill.
 Spt. æth. nitros. aa. ʒiij.
 Tinct. opii gt. lxx.
 Aq. menth. ʒvj. M.

From this time the discharge by the kidneys increased daily, till it amounted to 6 pints and upwards of high-coloured water, emitting a strong foetor, and depositing a heavy sediment. On July 10, his extremities were reduced to their natural size, the cough

and expectoration almost wholly removed, the pain about the prob. cord. much abated, and his strength and appetite greatly amended. On the 11th, he had several copious motions; diarrhœa being extremely prevalent among the patients for some time past, which compelled me to suspend the chalybeate mixture, and to have recourse to the cretaceous as at first. In four days the diarrhœa was removed; and, on the 15th, he commenced the chalybeate mixture, although every vestige of dropsy was at this time wholly removed; but the diarrhœa had again reduced him. It is remarkable, that during the 13th, 14th, and 15th, he scarcely made a quart of water each day.

“This man was accidentally seen on board the *Pompée*, and ordered to the hospital by Dr. Harness, commissioner of sick and wounded seamen, who, from the marked appearance of hectic, joined to the anasarca, diarrhœa, and other bad symptoms attending this patient, considered it a lost case.

“Case III. Henry Roach, 26 years of age, a seaman belonging to his Majesty's ship *Windsor Castle*, was received into the Royal Hospital on the 1st of June, 1800. I found the abdomen enormously enlarged, fluctuation, dry tongue, unquenchable thirst, the lower extremities much tumified and œdematous, an unceasing cough, and he expectorated largely a purulent kind of mucus, if I may be permitted the expression, slightly tinged or streaked with blood; a fixed and distressing pain about the scrobicul. cordis, attended with profuse perspirations daily towards morning. The abdomen was so distended, and his strength so exhausted, that he could neither stand on his legs from the size and weight of his body, nor lie down for fear of suffocation. He dated the commencement of his disorder from having put on a damp shirt, the 24th of February last; from that time he had constant cough, which gradually increased till his belly began to swell, about five weeks before his admission. Whatever cathartics could do had been already liberally tried on board the ship. His countenance had all the appearance of a completely formed hectic; the alæ of the nose were pinched in, the cheeks sunk and hollow, with a circular rouge-like tinge in the centre of each; in short, his whole appearance indicated approaching dissolution, or, at best, incurable phthisis; nor had I the smallest hope of his recovery. For the first three days I prescribed only a pectoral mixture with tinct. opii camph. to ease the violence of the cough, expecting that he could not survive many days. On the 4th of June, however, he began with the chalybeate diuretic mixture, which was continued till the 8th, without much variation; but he made on this day near a quart of water at different times. Increased the strength of the mixture. Allowed a pint of red wine; no restrictions respecting the quantity of common drink, which was made by boiling ʒij. of crem. tart. for a few minutes in a quart of water with a little

orange-peel, sweetened with honey. From this time to the 26th there was no alteration in the treatment, but the discharge by the kidneys increased to the astonishing quantity of between 8 and 9 pints of water daily, very high-coloured, and depositing a copious sediment; he began now to recover rapidly. Increased the ferr. vitr. to gr. xxx. with kali, myrrh. a. ʒij. This quantity was daily persevered in till the 13th of July, on which day he quitted the hospital perfectly restored to health, all the symptoms having gradually disappeared; even the cough and expectoration appeared wholly removed. There was a variety of small occurrences respecting this and the preceding patient, which I have omitted, to avoid prolixity; but each had blisters applied to the scrobiculus cordis.

“From the fortunate termination of these bad cases,” says Dr. Magennis, “are we not justly entitled to conclude, that the above plan of cure will commonly prove successful for the removal of dropsy as a general disease, and even when combined with incipient phthisis, or a morbid state of the lungs? But where it depends on long-established scirrhus of the liver, or other viscera, on polypi of the heart and great blood vessels, on compression from fixed and indolent tumors, or, in short, when it is symptomatic only of some internal incurable malady; then, indeed, the probability of success will be less apparent.”

When the patient can by no other means be relieved, the operation of paracentesis must be had recourse to, which is the business of the surgeon.

GENUS LXXX. HYDROMETRA.

DROPSY of the *Uterus*.

Hydrometra, *Sauv.* gen. 289. *Sag.* 116. *Boerb.* 1224.

GENUS LXXXI. HYDROCELE.

DROPSY of the *Scrotum*.

Oscheocele, *Sauv.* gen. 41. *Vog.* 388.

Oscheophyma, *Sag.* 44.

Hydrops scroti, *Vog.* 389.

Hydrops testium, *Boerb.* 1227:

For the treatment of these two diseases, we may refer the reader to what has already been said of other species of dropsy, particularly ascites. But both are chiefly to be combated by surgical

ration, especially the latter, in which it seldom fails to produce complete cure.

GENUS LXXXII. PHYSCONIA.

SWELLING of the *Belly*.

Physonia, *Sauv.* gen. 283. *Vog.* 325. *Sag.* gen. 110.
Hypofarca, *Lin.* 218.

This disease may arise from a variety of causes, as from a swelling of the liver, spleen, kidneys, uterus, omentum, ovarium, ventery, intestines, &c. and sometimes it arises merely from

In the former cases, as the viscera are generally scirrhus indurated, the disease is for the most part incurable; neither is prospect much better where the disease is occasioned by a great quantity of fat.

GENUS LXXXIII. RACHITIS.

The RICKETS.

Rachitis, *Sauv.* gen. 294. *Lin.* 212. *Vog.* 312. *Sag.* gen. 120. *Boerb.* 1480. *Hoffm.* III. 487. *Zeviani* della Rachitide. *Glisson* de Rachitide.

This is one of the diseases peculiar to infancy; for which reason we reserve the consideration of it for the chapter on the DISEASES OF CHILDREN in our fifth volume.

ORDER III. IMPETIGINES.

Impetigines, *Sauv.* Cl. X. Ord. V. *Sag.* Cl. III. Ord. V.

GENUS LXXXIV. SCROFULA.

KING'S-EVIL.

Scrofula, *Sauv.* gen. 285. *Vog.* 367. *Sag.* 121.
Struma, *Lin.* 284.

[*Description.*] This disease shews itself by hard scirrhus, and often indolent tumors, which arise by degrees in the glands of

the neck, under the chin, arm-pits, and different parts of the body, but most commonly in the neck, and behind the ears. In process of time, the cellular substance, ligaments of the joints, and even the bones themselves, are affected. In scrofula the swellings are much more moveable than those of the scirrhus kind; they are generally softer, and seldom attended with much pain; they are tedious in coming to suppuration; are very apt to disappear suddenly, and again to rise in some other part of the body. We may likewise mention, as characteristic circumstances of this disease, a remarkable softness of the skin, a kind of fulness of the face, generally with large eyes, and a very delicate complexion.

2. *Causes.*] A variety of causes have been mentioned as tending to produce scrofula; viz. a crude indigestible food; bad water; living in damp, low situations; its being an hereditary disease, and in some countries endemic, &c. But whatever may in different circumstances be the exciting or predisposing causes of the scrofula, the disease itself either depends upon, or is at least much connected with, a debility of the constitution in general, and probably of the lymphatic system in particular, the complaint always shewing itself by some affections of the latter. And the debility has at least a considerable influence in its production is probable, not only from the manifest nature of some of the causes said to be productive of scrofula, but likewise from such remedies as are found most serviceable in the cure, which are all of a tonic and vigorating nature.

3. *Prognosis.*] The scrofula is a distemper which often eludes the most powerful medicines, and therefore physicians cannot with any certainty promise a cure. It is seldom, however, that it proves mortal in a short time, unless it attacks the internal parts such as the lungs, where it frequently produces tubercles that bring on a fatal consumption. When it attacks the joints, it frequently produces ulcers, which continue for a long time, and gradually waste the patient; while, in the mean time, the bones become foul and corroded, and death ensues after a long scene of misery. The prognosis in this respect must be regulated entirely by the nature of the symptoms.

4. *Cure.*] It was long supposed that scrofula depended upon an acid acrimony of the fluids; and this, it is probable, gave rise to the use of burnt sponge, different kinds of soap, and other alkaline substances, as the best remedies for acidity. But although a sourness of the stomach and *primæ viæ* does, no doubt, frequently occur in these complaints, yet this symptom seems to be entirely the consequence of that general relaxation which in scrofula so universally prevails, and which does not render it in the least necessary to suppose a general acrescency of the fluids to take place; as the one very frequently, it is well known, even in other complaints, occurs without the least suspicion of any acid acrimony.

mony existing in the other. This is also rendered very probable from the indolent nature of scrofulous tumors, which have been known to subsist for years without giving any uneasiness; which could not have been the case, if an acid, or any other acrimony, had prevailed in them.

In the treatment of scrofula, different morbid conditions, existing in different parts, require, according to circumstances, various means of cure: but, upon the whole, the remedies directed may be considered as used with a view either to the tumors, to the ulcerations, or to the general state of the system.

Mercurial purges are sometimes of use as resolvents in scrofulous swellings; but nothing has such considerable influence as a frequent and copious use of Peruvian bark. Cold bathing too, especially in the sea, together with frequent moderate exercise, is often of singular service here; as is likewise change of air, especially to a warm climate.

In the scrofulous inflammation of the eyes, or ophthalmia strumosa, the Peruvian bark has also been given with extraordinary advantage: and we meet with an instance of its having cured the gutta serena in the face; a complaint which it is often difficult to remove, and which is extremely disagreeable to the fair sex.

From the various cases related of tumefied glands, it appears, that when the habit is relaxed and the circulation weak, either from constitution or accident, the bark is a most efficacious medicine, and that it acts as a resolvent and discutient. It will not, however, succeed in all cases; but there are few in which a trial can be attended with much detriment. Dr. Fothergill observes, that he has never known it avail much where the bones were affected, nor where the scrofulous tumor was so situated as to be accompanied with much pain, as in the joints, or under the membranous coverings of the muscles; for, when the disease attacks those parts, the periosteum seldom escapes without some injury, by which the bone will, of course, be likewise affected. Here the Peruvian bark is of no effect: instead of lessening, it rather increases the fever that accompanies those circumstances; and, if it do not really aggravate the complaint, it seems at least to accelerate the progress of the disease.

Various are the modes in which the bark is administered: Dr. Fothergill made use of a decoction, with the addition of some aromatic ingredients and a small quantity of liquorice-root, as a form in which a sufficient quantity may be given without exciting disgust. But where it is easily retained in the stomach in substance, perhaps the best form of exhibiting it is that of powder; and in this state it is often advantageously conjoined with powder of cicuta, and taken in milk.

The powder, however, soon becomes disagreeable to very young patients; and the extract seems not so much to be depended

upon as may have been imagined. In making the extract, it is exposed to so much heat, as must have some effect upon its virtues, perhaps to their detriment. In administering it, likewise, if great care be not taken to mix it intimately with a proper vehicle, or some very soluble substance, in weak bowels it very often purges, and thereby not only disappoints the physician, but injures the patient. A small quantity of the *cortex Winteranus* added, gives the medicine a grateful warmth; and a little liquorice, a few raisins, gum-arabic, or the like, added to the decoction before it be taken from the fire, by making the liquor viscid enables it to suspend more of the fine particles of the bark; by which process the medicine is not only improved in efficacy, but at the same time rendered less disagreeable.

We shall here submit to the choice of the practitioner the following formulæ employed at St. Bartholomew's, Guy's, St. George's, the Middlesex, and other hospitals.

(No. 405.) *R.* Antimon. præp.

Hydrarg. cum sulphur. sing. \mathfrak{z} j.

Conf. cort. aurant. gr. x. M.

Fiat Bolus mane et nocte sumendus.

(No. 406.) *R.* Antim. præp.

Hydrargyri, sing. \mathfrak{z} j.

Flor. sulphur. \mathfrak{z} ss.

Terantur simul in mortario lapideo, donec unitas facta sit.

Dosis, drachma dimidia bis die.

(No. 407.) *R.* Calomelanos

Sulph. antim. præcip. sing. \mathfrak{z} ss.

Guaiaac. in pulv. triti \mathfrak{z} j.

Bals. copaiv. q. f.

Fiant pilulæ xxx quarum sumat j. vel ij, omni nocte.

(No. 408.) *R.* Natr. præp. leni igne calcinat. \mathfrak{z} iss.

Rhabarb. in pulv. trit. \mathfrak{z} ss.

Conf. rosæ rub. q. f.

Fiant pilulæ mediocres, quarum sumantur duo vel tres bis terve indies.

(No. 409.) *R.* Spong. ust. præp. \mathfrak{z} j.

Rhabarb. in pulv. trit. gr. v.

Tere simul ut fiat pulvis, vel syrupum zingiberis addendo fiat Bolus, bis die sumendus.

(No. 410.) *R.* Spong. ust. \mathfrak{z} ij.

Syr. zingiber. q. f.

Fiat Bolus bis die sumendus.

(No. 411.) *R.* Spong. ust. præp. \mathfrak{z} ss.

Sal. gemmæ \mathfrak{z} j.

Kali vitriolat. gr. x.

Syr. simp. q. f.

Fiat Bolus bis in die sumendus.

- No. 412. R. Myrrh. in pulv. trit. ℥j.
 Kali præp. gr. x.
 Ferri vitriolat. gr. viij.
 Aq. piment. ℥ij.
 Fiat Haustus bis terve quotidie sumendus.
- No. 413.) . Cinchon. flav. in pulv. trit. ℥ss.
 Rosat. rub. exsiccat. ℥ij.
 Aq. fervent. ℥xij.
 Macera in vaso idoneo, et liquorem frigesactum
 cola.
 Infus. colat. ℥vij. adde,
 Acid. vitriol. dilut. ℥j.
 Syr. simp. ℥ss.
 Fiat Mistura cujus cyathum bibat quarta quaque
 hora.
- No. 414.) R. Natri præparati ℥ij.
 Pulveris cinchonæ ℥j.
 Mucilag. arabici gummi q. s.
 Fiat Electuarium, cujus capiat quant. nuc. moschi.
 ter die.
- No. 415.) R. Mezer. rad. cortic. ℥ij.
 Aq. fontis lib. ij.
 Decoque ad lib. j. Sub finem coctionis adde,
 Glycyrrhiz. rad. incis. ℥j. et cola.
 Bibat æger ab uncis duabus usque ad uncias qua-
 tuor, ter quaterve indies.
- No. 416.) R. Mezer. rad. ℥ss.
 Aq. distillat. lib. vj.
 Decoque ad lib. ij. sub finem coctionis addens,
 Rad. Glycyrrhiz. incis. ℥ss.
 Dosis libra dimidia ter quotidie.
 Dr. Hugh Smith recommends the following:
- No. 417.) R. Vitri antimon. in pulv. quam subtiliss. redacti
 gr. iv.
 Gum. sagapen. ℥ss.
 Ol. juniperi gtt. x.
 Syr. simp. q. s. ut fit. pill. No. xxx. sumend. ij.
 iij. vel. iiij. mane vel man. et. vesp.
- He says bark and chalybeates are often very useful, and that
 adder root, as an attenuant and detergent of the minutest vessels,
 may likewise be of advantage.
- No. 418.) R. Hydrarg. muriat. gr. x.
 Solve in Aq. fontan. ℥jss.
 Adde Tinct. cantharid. ℥ss.
 M. ft. Lotion nocte cubitum iturus tumoribus usurpand.
 In indolent swellings of the glands from viscid humours, sea-
 ter has been strongly recommended by Dr. Russel.

Dr. Fothergill also acquaints us, that the cicuta even by itself is not without a considerable share of efficacy in removing scrofulous disorders. He mentions the case of a gentlewoman, about twenty-eight years of age, afflicted from her infancy with scrofulous complaints, severe ophthalmies, glandular swellings, &c. cured by the *extractum cicutæ* taken constantly for the space of a year. He observes, however, that when given to children even in very small doses, it is apt to produce spasmodic affections; for which reason he rarely exhibited it to them when very young, or even to adults of very irritable habits. Dr. Fothergill gives several other instances of the success of cicuta in scrofulous cases, and even in one which seemed to be not far removed from a confirmed phthisis; but owns that it seldom had such good effects afterwards: yet he is of opinion, that where there are symptoms of tubercles forming, a strumous habit, and a tendency to phthisis, the cicuta will often be serviceable. It is anodyne, corrects acrimony, and promotes the formation of good matter. With regard to the quality of the medicine, he observes, that the extract prepared from hemlock before the plant arrives at maturity, is much inferior to that which is made when the hemlock has acquired its full vigour, and is rather on the verge of decline; just when the flowers fade, the rudiments of the seeds become observable, and the habit of the plant inclines to yellow. This, he thinks, is the proper time to collect the hemlock. It has then had the full benefit of the summer heat; and the plants that grow in exposed places will generally be found more active than those that grow in the shade. The less heat it undergoes during the preparation, the better. Therefore, if a considerable quantity of the dry powder of the plant gathered at a proper season be added, less boiling will be necessary, and the medicine will be the more efficacious. But let the extract be prepared in what manner soever it may, provided it be made from the genuine plant, at a proper season, and be not destroyed by boiling, the chief difference observable in using it is, that a larger quantity of one kind is required to produce a certain effect than of another. Twenty grains of one sort of extract have been found equal, in point of efficacy, to thirty, nay near forty, of another; yet both of them made from the genuine plant, and most probably prepared with equal fidelity. To prevent the inconveniences arising from this uncertainty, it seems always expedient to begin with small doses, and proceed step by step till the extract produces certain effects, which seldom fail to arise from a full dose. These effects are different in different constitutions. But, for the most part, a giddiness affecting the head, and motions of the eyes as if something pushed them outwards, are first felt; a slight sickness, and trembling agitation of the body; a laxative stool or two. One or all of these symptoms are the marks of a full dose, let the quantity in weight be what it will. Here we

must stop till none of these effects be felt; and in three or four days advance a few grains more. For it has been supposed by most of those who have used this medicine to any good purpose, that the cicuta seldom procures any benefit, though given for a long time, unless in as large a dose as the patient can bear without suffering any of the inconveniences above mentioned. There is, however, reason to believe, that its effects as a discutient are in no degree dependent on its narcotic powers: and some are inclined to think, that recourse is often had to larger doses than are necessary; or at least that the same benefit might be derived from smaller ones continued for an equal length of time.

Patients commonly bear a greater quantity of the extract at night than at noon, and at noon than in the morning. Two drachms may be divided into thirty pills. Adults begin with two in the morning, two at noon, and three or four at night, with directions to increase each dose, by the addition of a pill to each, as they can bear it.

But after all, the best form under which the cicuta can, we think, be exhibited, is that of powder from the leaves. This, either in a state of powder or made into pills, may be given at first to the extent of four or five grains, and the dose gradually rising till it amount to fifteen or twenty grains twice or thrice a day. Given to this extent, particularly when conjoined with the Peruvian bark, it has often been found of great service in scrofulous cases. At the same time it must be allowed, that such patients, after resisting every mode of cure, will have, in some instances, a spontaneous recovery in the progress of life, probably from the system acquiring additional vigour.

GENUS LXXXV. SYPHILIS.

LUES VENEREA, or *French Pox*.

Syphilis, *Sauv.* gen. 3086. *Lin.* 6. *Vog.* 319. *Sag.* 126.

Lues venerea, *Boerh.* 1440. *Hoffm.* III. 413. *Junck.* 96:

Astruc, de lue Venerea.

As this disease usually happens to be treated by the surgeon, we have fully considered it in our fourth volume.

GENUS LXXXVI. SCORBUTUS.

SCURVY.

- Scorbutus, *Sauv.* gen. 391. *Lin.* 223. *Vog.* 318. *Sag.* 127;
Boerb. 1148. *Hoffm.* III. 369. *Junck.* 91. *Lind.* on the
 Scurvy. *Hulme*, de Scorbuto. *Roupe*, de morbis Navi-
 gantium.

1. *Description.*] The first indication of the scorbutic diathesis is generally a change of colour in the face, from the natural and healthy look, to a pale and bloated complexion, with a listlessness, and aversion from every sort of exercise; the gums soon after become itchy, swell, and are apt to bleed on the slightest touch; the breath grows offensive, and the gums, swelling daily more and more, turn livid, and at length become extremely fungous and putrid, as being continually in contact with the external air; which in every case favours the putrefaction of substances disposed to run into that state, and is indeed absolutely requisite for the production of actual rottenness.

The symptoms of the scurvy, like those of every other disease, are somewhat different in different subjects, according to the various circumstances of constitution; and they do not always proceed in the same regular course in every patient. But what is very remarkable in this disease, notwithstanding the various and immense load of distress under which the patients labour, there is no sickness at the stomach, the appetite keeps up, and the senses remain entire almost to the very last: when lying at rest they make no complaints, and feel little distress or pain; but the moment they attempt to rise or stir themselves, then the breathing becomes difficult, with a kind of straitness, or catching, and great oppression, and sometimes they have been known to fall into a syncope. This catching of the breath upon motion, with the loss of strength, dejection of spirit, and rotten gums, are held as the essential or distinguishing symptoms of the disease. The skin is generally dry, except in the very last stage, when the patients become exceedingly subject to faintings, and then it grows clammy and moist: in some it has an aserine appearance; but much oftener it is smooth and shining; and, when examined, is found to be spread over with spots not rising above the surface, of a reddish, bluish, livid, or purple colour, with a sort of yellow rim round them. At first these spots are for the most part small, but in time they increase to large blotches. The legs and thighs are the places where they are principally seen; more rarely on the head and face. Many have a swelling of the legs, which is harder, and retains the impression of the finger longer than the common dropsical or truly oedematous swellings. The slightest wounds and bruises, in scor-

butic habits, degenerate into foul and untoward ulcers: and the appearance of these ulcers is so singular and uniform, that they are easily distinguished from all others. Scorbutic ulcers afford no good digestion, but give out a thin and foetid ichor mixed with blood, which at length has the appearance of coagulated gore, lying caked on the surface of the sore, not to be separated or wiped off without some difficulty. The flesh underneath these sloughs feels to the probe soft and spongy, and is very putrid. Neither detergents nor escharotics are here of any service; for though such sloughs be with great pains taken away, they are found again at the next dressing, where the same sanguineous putrid appearance always presents itself. Their edges are generally of a livid colour, and puffed up with excrescences of proud flesh arising from below the skin. As the violence of the disease increases, the ulcers shoot out a soft bloody fungus, which often rises in a night's time to a monstrous size; and although destroyed by cauteries, actual or potential, or cut away with a knife, is found at next dressing as large as ever. It is a considerable time, however, before these ulcers, bad as they are, come to affect the bones with rottenness. These appearances will always serve to assure us that an ulcer is scorbutic, and should put us on our guard with respect to the giving mercurials, which are the most pernicious things that can be administered in these cases.

Scorbutic people, as the disease advances, are seldom free from pains; though these have not the same seat in all, and often in the same person shift their place. Some complain of universal pain in all their bones; but most violent in their limbs, and especially the joints: the most frequent seat of their pain, however, is some part of the breast. The pains of this disease seem to arise from the distraction of the sensible fibres by the extravasated blood being forced into the interstices of the periosteum and of the tendinous and ligamentous parts; whose texture being so firm, the fibres are liable to higher degrees of tension, and consequently of pain.

The state of the bowels is various; in some there is an obstinate costiveness; in others a tendency to a flux, with extremely foetid stools: the urine is also rank and foetid, generally high-coloured; and, when it has stood for some hours, throws up an oily scum on the surface. The pulse is variable; but most commonly slower and more feeble than in the time of perfect health. A stiffness in the tendons, and weakness in the joints of the knees, exist early in the disease; but as it grows more inveterate, the patients generally lose the use of their limbs altogether; having a contraction of the flexor-tendons in the ham, with a swelling and pain in the joint of the knee. Some have their legs monstrously swelled, and covered over with livid spots, or ecchymoses; others have hard tumors there: some, though without swelling, have the calves of the legs, and the flesh of the thighs, quite indurated. As per-

sons far gone in the scurvy are apt to faint, and even to expire, on being moved and brought out into the fresh air, the utmost care and circumspection are requisite when it is necessary to stir or remove them.

Scorbutic patients are at all times, but more especially as the disease advances, extremely subject to profuse bleedings from different parts of the body; as from the nose, gums, intestines, lungs, &c. and likewise from their ulcers, which generally bleed plentifully if the fungus be cut away. It is not easy to conceive a more dismal and diversified scene of misery than what is beheld in the third and last stage of this disease: it being then that the anomalous and more extraordinary symptoms appear, such as the bursting out of old wounds, and the dissolution of old fractures that have been long united.

2. *Causes.*] The term *scurvy* has been indiscriminately applied, even by physicians, to almost all the different kinds of cutaneous foulness; owing to some writers of the last century, who comprehended such a variety of symptoms under this denomination, that there are few chronic affections which may not be so called, according to their scheme: but the disease here meant is the true putrid scurvy, so often fatal to seamen, and to people pent up in garisons without sufficient supplies of sound animal food and fresh vegetables; or which is sometimes known to be endemic in certain countries, where the nature of the soil, the general state of the atmosphere, and the common course of diet, all combine in producing that singular species of corruption in the mass of blood which constitutes this disease; for the appearances, on dissecting scorbutic subjects, sufficiently shew, that the scurvy may, with great propriety, be termed a disease of the blood.

Dr. Lind has, in a postscript to the third edition of his treatise on the scurvy, given the result of his observations drawn from the dissection of a considerable number of victims to this fatal malady, from which it appears that the true scorbutic state, in an advanced stage of the disease, consists in numerous effusions of blood into the cellular interstices of most parts of the body, superficial as well as internal; particularly the gums and the legs; the texture of the former being almost entirely cellular, and the generally dependent state of the latter rendering those parts, of all others in the whole body, the most apt to receive and retain the stagnant blood, when its crasis comes to be destroyed; and it loses that glutinous quality which, during health, hinders it from escaping through the pores in the coats of the blood-vessels, or through exhalant extremities.

A dropsical indisposition, especially in the legs and breast, was frequently, but not always, observed in the subjects that were opened, and the pericardium was sometimes found distended with water: the water thus collected was often so sharp as to shrivel

the hands of the dissector; and in some instances, where the skin happened to be broken, it irritated and festered the wound.

The fleshy fibres were found so extremely lax and tender, and the bellies of the muscles in the legs and thighs so stuffed with the effused stagnating blood, that it was always difficult, and sometimes impossible, to raise or separate one muscle from another. He says that the quantity of this effused blood was amazing; in some bodies it seemed that almost a fourth part of the whole mass had escaped from the vessels; and it often lay in large concretions on the periosteum, and in some few instances under this membrane immediately on the bone. And yet, notwithstanding this dissolved and depraved state of the external fleshy parts, the brain always appeared perfectly sound, and the viscera of the abdomen, as well as those in the thorax, were in general found quite uncorrupted. There were spots indeed, from extravasated blood, observed on the mesentery, intestines, stomach, and omentum; but these spots were firm, and free from any mortified taint; and, more than once, an effusion of blood, as large as a hand's breadth, has been seen on the surface of the stomach; and what was remarkable, that very subject was not known, while living, to have made any complaint of sickness, pain, or other disorder, in either stomach or bowels.

These circumstances and appearances, with many others that are not here enumerated, all prove to a demonstration a putrescent, or at least a highly depraved, state of the blood: and yet Dr. Lind takes no small pains to combat the idea of the scurvy's proceeding from animal putrefaction; a notion which, according to him, "may, and hath misled physicians to propose and administer remedies for it altogether ineffectual."

He also, in the preface to his third edition, talks of the mischief done by an attachment to delusive theories. He says, "it is not probable that a remedy for the scurvy will ever be discovered from a preconceived hypothesis, or by speculative men in the closet, who have never seen the disease, or who have seen at most only a few cases of it;" and adds, "that though a few partial facts and observations may, for a little, flatter with hopes of greater success, yet more enlarged experience must ever evince the fallacy of all positive assertions in the healing art."

Sir John Pringle, however, is of a very different opinion. He "is persuaded, after long reflection, and the opportunities he has had of conversing with those who to much sagacity had joined no small experience in nautical practice, that upon an examination of the several articles which have either been of old approved, or have of late been introduced into the navy, it will appear, that though these means may vary in form and in mode of operating, yet they all some way contribute towards preventing putrefaction; whether of the air in the closer parts of a ship, of the

meats, of the water, of the clothes and bedding, or of the body itself."

What Dr. Lind has above advanced is the more remarkable, as in the two former editions of his book, he embraced the hypothesis of animal putrefaction being the cause of the scurvy; and if these effusions of blood, from a destruction of its crasis and the dissolved state of the muscular fibres, together with the rotten condition of the mouth and gums, do not betray putrescency, it is hard to say what does, or what other name we shall bestow on this peculiar species of depravation which constitutes the scurvy.

The blood, no doubt, derives its healthy properties, and maintains them, from the due supplies of wholesome food; while the insoluble, superfluous, effete, and acrid parts, are carried off by the several discharges of stool, urine, and perspiration.

Our senses of taste and smell are sufficient to inform us when our food is in a state of soundness and sweetness, and consequently wholesome; but it is from chemistry that we must learn the principles on which these qualities chiefly depend.

Experiments of various kinds have proved, that the soundness of animal and vegetable substances depends very much, if not entirely, on the presence of their aerial principle; since rottenness is never observed to take place without an emission of fixed air from the putrefying substance; and even when putrefaction has made a considerable progress, if aerial acid can be transferred, in sufficient quantity, from some other substance in a state of effervescence or fermentation, into the putrid body, the offensive smell of this will be destroyed; and if it be a bit of rotten flesh with which the experiment is made, the firmness of its fibres will be found in some measure restored.

The experiments of Dr. Hales, as well as many others made since his time, shew that an aerial principle is greatly connected with, and remarkably abundant in, the gelatinous parts of animal bodies, and in the mucilage or farina of vegetables. But these are the parts of our food which are most particularly nutritive; and Dr. Cullen, whose opinion on this, as on every other medical subject, must be allowed of the greatest weight, affirms, in his Lectures on the Materia Medica, that the substances on which we feed are nutritious only in proportion to the quantities of oil and sugar which they respectively contain. This oil and sugar are blended together in the gelatinous part of our animal food, and in the mucilaginous and farinaceous part of esculent vegetables; and, while thus intimately combined, are not perceivable by our taste, though very capable of being developed and rendered distinct by the power of the digestive organs; for in consequence of the changes produced during digestion, the oily and the saccharine matter become manifest to our senses, as we may see and taste in the milk of animals, which is chiefly chyle a little advanced in its

progress toward sanguification ; the oil is observed to separate spontaneously, and from which a quantity of actual sugar may be obtained by a very simple process.

Thus much being premised, we can now readily comprehend how the blood may come to lose those qualities of smoothness, mildness, and tenacity, which are natural to it. For if, in the first place, the fluids, and organs subservient to digestion, should be so far distempered or debilitated that the nutritious parts of the food cannot be properly developed, the blood must be defrauded of its due supplies ; which will also be the case if the aliment should not originally contain enough of oily and saccharine matter, or should be so circumstanced, from being dried or salted, as to hinder the ready extrication of the nutritious parts ; or lastly, if the natural discharges should be interrupted or suspended, so that the superfluous, acrid, and effete fluids are retained in the general mass ; in all these instances the blood must of necessity run into proportionate degrees of depravation.

And hence we may understand how it may possibly happen, that when persons are greatly weakened by some preceding disorder, and at the same time debarred the use of proper bodily exercise, the scorbutic diathesis should take place, even though they enjoy the advantages of pure air and wholesome diet.

But these are solitary cases, and very rarely seen ; for whenever the scurvy seizes numbers, and can be considered as an epidemic disease, it will be found to depend on a combination of the major part, or perhaps all, of the following circumstances :

- (1) A moist atmosphere, and more especially if cold be joined to this moisture.
- (2) Too long cessation from bodily exercise, whether it be from constraint, or a lazy slothful disposition.
- (3) Dejection of mind.
- (4) Neglect of cleanliness, and want of sufficient clothing.
- (5) Want of wholesome drink, either of pure water or fermented liquors.
- (6) Above all, the being obliged to live continually on salted meats, perhaps not well cured, without a due proportion of the vegetables sufficient to correct the pernicious tendency of the salt, by supplying the bland oil and saccharine matter requisite for the purposes of nutrition.

These general principles respecting the causes and nature of scurvy, seem to afford a better explanation of the phenomena of the disease than any conjectures respecting it that have hitherto been proposed. It must, however, be allowed, that Dr. Lind is by no means the only writer who is disposed to consider this disease as not referable to the condition of the circulating fluids. In a late ingenious treatise on this subject by Dr. Milman, he strenuously contends, that the primary morbid affection in this com-

plaint is a debilitated state of the solids arising principally from want of aliment. But his arguments on this subject, as well as those of Dr. Lind, are very ably answered by a still later writer on this subject, Dr. Trotter, who has drawn his observations respecting it from very extensive experience, and who considers as clearly established, by incontrovertible facts, that the proximate cause of scurvy depends on some peculiar state of the blood. Dr. Trotter, in the second edition of his *Observations on the Scurvy*, from the result of further observation and later discoveries in chemistry, has attempted, with much ingenuity, to prove, that the morbid condition of the blood, which takes place in scurvy arises from the abstraction of vital air, or, as it is now generally called, *oxygen*; and this opinion, though still, perhaps, in some particulars, requiring further confirmation, is, it must be allowed, supported by many plausible arguments.

3. *Prevention and Cure.*] The scurvy may be prevented, by obviating and correcting those circumstances in respect of the non-naturals which were mentioned as contributing to the disease, and laid down as causes. It is therefore a duty highly incumbent on officers commanding at sea, or in garrisons, to use every possible precaution; and, in the first place, to correct the coldness and moisture of the atmosphere by sufficient fires: in the next, to see that their men be lodged in dry, clean, and well-ventilated barracks or apartments: thirdly, to promote cheerfulness, and enjoin frequent exercise, which alone is of infinite use in preventing the scurvy: fourthly, to take care that the clothing be proper, and cleanliness of person strictly observed: fifthly, to supply them with wholesome drink, either pure water or sound fermented liquors: and if spirits be allowed, to have them properly diluted with water and sweetened with melasses or coarse sugar: and lastly, to order the salted meats to be sparingly used, or sometimes entirely abstained from; and, in their place, let the people live on different compositions of the dried vegetables; fresh meat and recent vegetables being introduced as often as they can possibly be procured.

A close attention to these matters will, in general, prevent the scurvy from making its appearance at all, and will always hinder it from spreading its influence far. But when these precautions have been neglected, or the circumstances such that they cannot be put in practice, and the disease hath actually taken place, the whole endeavour must be to restore the blood to its original state of soundness: and happily, such is the nature of this disease, that if a sufficiency of new matter, of the truly mild nutritious sort, and particularly such as abounds with vital air, such as recent vegetables, or different acid fruits, can be thrown into the circulation while the fleshy fibres retain any tolerable degree of firmness, the patient will recover; and that in a surprisingly short space.

time, provided a pure air, comfortable lodgings, sufficient clothing, cleanliness, and exercise, lend their necessary aid.

This being the case, the plan of treatment is to be conducted almost entirely in the dietetic way; as the change in the mass of blood, which it is necessary to produce, must be brought about by things that can be received into the stomach by pints or pounds, and not by those which are administered in drops or grains, drachms or ounces. For here, as there is no disorder of the nervous system, we have no need of those active drugs which are indispensably necessary in febrile or nervous diseases; the scorbutic diathesis being quite opposite to that which tends to produce a fever or any species of spasmodic disorders; nay, Dr. Lind says, he has repeatedly found, that even the infection of an hospital fever is long resisted by a scorbutic habit.

It will now naturally occur to the reader, what those alimentary substances must be which bid the fairest to restore the blood to its healthy state; and he needs scarcely to be told, that they are of those kinds which the stomach can bear with pleasure, though taken in large quantities, which abound in jelly or mucilage, and which allow those nutritious parts to be easily developed; for though the viscera in scorbutic patients may be all perfectly sound, yet we cannot expect that either the digestive fluids or organs should possess the same degrees of power, which enable them, during health, to convert the crude dry farinacea, and the hard salted flesh of animals, into nourishment. We must therefore search for the *antiscorbutic virtue* in the tender sweet flesh of herbivorous animals; in new milk; and in the mucilaginous acid juices of recent vegetables, whether they be fruits, leaves, or roots.

The four juices of lemons, oranges, and limes, have been generally held as antiscorbutics in an eminent degree, and their power ascribed to their acid; from an idea that acids of all kinds are the only correctors of putrefaction. But the general current of practical observations shews, and our experiments confirm it, that the virtue of these juices depends on their *aërial principle*; accordingly, while perfectly recent and in the mucilaginous state, and especially if mixed with wine and sugar, the juices of any one of these fruits will be found a most grateful and powerful antiscorbutic.

Dr. Lind observing "that the lemon-juice, when given by itself undiluted, was apt, especially if over dosed, to have too violent an operation, by occasioning pain and sickness at the stomach, and sometimes a vomiting; therefore found it necessary to add wine and sugar. A pint of Madeira wine, and two ounces of sugar, were put to four ounces and a half of juice, and this quantity was found sufficient for weak patients to use in twenty-four hours: such as were very weak sipped a little of this fre-

quently according as their strength would permit; others who were stronger took about two ounces of it every two hours; and when the patients grew still stronger, they were allowed eight ounces of lemon-juice in twenty-four hours."

While this very pleasant mixture, which is both a cordial and an antiseptic, may be had, it would be needless to think of prescribing any other; but when the fresh juice cannot be procured, we must have recourse to such other things as may be obtained. But the various modes of combining and administering these, so as to render them perfectly agreeable to the stomach, must always be regulated by circumstances, and therefore it will be in vain to lay down particular directions; since all that we have to do is, to fix on such fruits and other fresh vegetables as can be most conveniently had and taken, and contrive to give them in those forms, either alone or boiled up with flesh-meat into soups, that will allow the patients to consume the greatest quantities.

The first promising alteration from such a course is usually a gentle diarrhoea; and if, in a few days, the skin becomes soft and moist, it is an infallible sign of recovery; especially if the patient gain strength, and can bear being stirred or carried into the open air without fainting.

But if the belly should not be loosened by the use of the fresh vegetables, nor the skin become soft and moist, then they must be assisted by *Elect. Sennæ* or by stewed prunes, or a decoction of tamarinds with cream of tartar, in order to abate the costiveness; and by drinking a light decoction of the woods and the use of warm bathing, in order to relax the pores of the skin; for nothing contributes more to the recovery of scorbutic patients than moderate sweating.

With regard to particular symptoms, antiseptic mouth waters composed of a decoction of Peruvian bark and infusion of roses, with a solution of myrrh, or the gargles (No. 59.) or (No. 75.) must be used occasionally, in order to cleanse the mouth, and give firmness to the spongy gums. Swelled and indurated limbs, and stiffened joints, must be bathed with warm vinegar, and relaxed by the steam of water, repeatedly conveyed to them, and confined to the parts by means of close blankets: ulcers on the legs must never be treated with unctuous applications nor sharp escharotics; but the dressing should consist of lint or soft rags, dipt in a strong decoction of Peruvian bark.

This disease at no time requires, or indeed bears, large evacuations, either by bleeding or purging; and, as has been already mentioned, the belly must only be kept open by the fresh vegetables or the mildest laxatives. But we are always to be careful that scorbutic persons, after a long abstinence from greens and fruits, be not permitted to eat voraciously at first, lest they fall into a fatal dysentery.

All, however, that has now been laid down as necessary towards the cure, supposes the patients to be in situations where they can be plentifully furnished with all the requisites; but unhappily these things are not to be procured at sea, and often deficient in garrison; therefore, in order that a remedy for the scurvy might never be wanting, Dr. Macbride, in the year 1762, first conceived the notion, that the *infusion of malt*, commonly called *wort*, might be substituted for the common antiscorbutics; and it was accordingly tried.

More than three years elapsed before any account arrived of the experiments having been made: at length, ten histories of cases were received, wherein the wort had been tried, with very remarkable success; and this being judged a matter of great importance to the seafaring part of mankind, these were immediately communicated to the public in a pamphlet under the title of, *An Historical Account of a new Method of treating the Scurvy at sea*.

This was in 1767; but after that time a considerable number of letters and medical journals, sufficient to make up a small volume, were transmitted to the author, particularly by the surgeons of his Majesty's ships who had been employed of late years for making discoveries in the southern hemisphere. Certain it is, that in many instances it has succeeded beyond expectation. In others it has fallen short: but whether this was owing to the untoward situation of the patients, or inattention on the part of the persons who were charged with the administration of the wort, not preparing it properly, or not giving it in sufficient quantity, or to its own want of power, must be collected from the cases and journals themselves.

During Captain Cook's third voyage, the most remarkable, in respect of the healthiness of the crew, that ever was performed, the wort is acknowledged to have been of singular use.

In a letter which this very celebrated and successful circumnavigator wrote to Sir John Pringle, he gives an account of the methods pursued for preserving the health of his people; and which were productive of such happy effects, that he performed a voyage of three years and eighteen days, through all the climates from 52° north to 71° south, with the loss of one man only by disease, and who died of a complicated and lingering illness, without any mixture of scurvy. Two others were unfortunately drowned, and one killed by a fall: so that out of the whole number 118, with which he set out from England, he lost only four.

He says, that much was owing to the extraordinary attention of the admiralty, in causing such articles to be put on board as either by experience or conjecture were judged to tend most to preserve the health of seamen; and with respect to the wort, he expresses himself as follows:

"We had on board a large quantity of malt, of which was made sweet wort, and given (not only to those men who had manifest

symptoms of the scurvy, but to such also as were, from circumstances, judged to be most liable to that disorder) from one or two to three pints in the day to each man, or in such proportion as the surgeon thought necessary, which sometimes amounted to three quarts in twenty-four hours: this is without doubt one of the best antiscorbutic sea medicines yet found out; and if given in time will, with proper attention to other things, I am persuaded, prevent the scurvy from making any great progress for a considerable time: but I am not altogether of opinion that it will cure it, in an advanced state, at sea."

On this last point, however, the captain and his surgeon differ: for this gentleman positively asserts, and his journal (in Dr. Macbride's possession) confirms it, that the infusion of malt did effect a cure in a confirmed case, and at sea.

The malt being thoroughly dried, and packed up in small casks is carried to sea, where it will keep sound, in every variety of climate, for at least two years: when wanted for use, it is to be ground in a hand-mill, and the infusion prepared from day to day by pouring three measures of boiling water on one of the ground malt; the mixture being well mashed, is left to infuse for ten or twelve hours, and the clear infusion then strained off. The patients are to drink it in such quantities as may be deemed necessary, from one to three quarts in the twenty-four hours: panada is also to be made of it, by adding biscuit, and currants and raisins; and this palatable mess is used by way of solid food. This course of diet, like that of the recent vegetables, generally keeps the bowels sufficiently open; but in cases where costiveness nevertheless prevails, gentle laxatives must be interposed from time to time, together with diaphoretics, and the topical assistants, fomentations and gargles, as in the common way of management.

Captain Cook was also provided with a large stock of *sour kroust*; (cabbage-leaves cut small, fermented, and stopped in the second stage of fermentation). A pound of this was served to each man, twice a-week, while they were at sea. Sour kroust, since the trial made of it on board Captain Cook's ships, has been extensively used by direction of the British government in many other situations, where scorbutus has prevailed: and it has been found to be highly serviceable both in preventing and in curing the disease. It was particularly found during the late American war to be highly beneficial to the British troops besieged in Boston who were at that time entirely fed on salt provisions sent from England. The scurvy at one period broke out among them with very alarming appearances; but by the seasonable arrival of a quantity of sour kroust, it was effectually overcome. Care, however, must be bestowed, that this article be properly prepared and properly kept. When due attention is paid to these particulars, it may be preserved in good condition for many months; and is con-

considered both by sailors and soldiers as a very acceptable addition to their salt provisions. But when served out to them in a putrid state, it is not only highly disagreeable to the taste, but probably also pernicious in its effects.

Among other means of preventing scurvy, Captain Cook had also a liberal supply of *portable soup*; of which the men had generally an ounce, three days in the week, boiled up with their pease; and sometimes it was served to them oftener: and when they could get fresh greens, it was boiled up with them, and made such an agreeable mess, that it was the means of making the people eat a greater quantity of greens than they would otherwise have done. And what was still of further advantage, they were furnished with sugar in lieu of butter or oil, which is seldom of the sweetest sort; so that the crew were undoubtedly great gainers by the exchange.

In addition to all these advantages of being so well provided with every necessary, either in the way of diet or medicine, Captain Cook was remarkably attentive to all the circumstances respecting cleanliness, exercise, sufficient clothing, provision of pure water, and purification of the air in the cloister parts of the ship.

From the effect of these different means, as employed by Captain Cook, there can be little doubt that they will with due attention be sufficient for the prevention and cure of the disease, at least in most situations: but besides these, there are also some other articles which may be employed with great advantage.

Newly brewed spruce-beer made from a decoction of the tops of the spruce-fir and melasses, is an excellent antiscorbutic; it acts in the same way that the wort does, and will be found of equal efficacy, and therefore may be substituted. Where the tops of the spruce-fir are not to be had, this beer may be prepared from the essence of spruce as it has been called, an article which keeps easily for a great length of time. But in situations where neither the one nor the other can be had, a most salutary mess may be prepared from oatmeal, by infusing it in water, in a wooden vessel, till it ferments, and begins to turn sourish; which generally happens, in moderately warm weather, in the space of two days. The liquor is then strained off the grounds, and boiled to the consistence of a jelly, which is to be eaten with wine and sugar, or with butter and sugar.

Nothing is more commonly talked of than a *land scurvy*, as a distinct species of disease from that which has been now described; but no writer has yet given a description so clear as to enable us to distinguish it from the various kinds of cutaneous foulness and eruption, which indeed are vulgarly termed *scorbutic*, but which are a-kin to the itch or leprosy, and for the most part require mercurials. These, however, are very different diseases from the

true scorbutus, which it is well known may prevail in certain situations on land as well as at sea, and is in no degree to be attributed to sea air.

GENUS LXXXVII. ELEPHANTIASIS.

Elephantiasis, *Sauv.* gen. 302. *Vog.* 321. *Sag.* gen. 128.
Elephantia Arabum, *Vog.* 322.

This being an external disease, and usually treated by the Surgeon, we have considered it in our fourth volume.

GENUS LXXXVIII. LEPROA.

The LEPROSY.

Leprosia, *Sauv.* gen. 303. *Lin.* 262. *Sag.* 129.
Leprosia Græcorum, *Vog.* 320.
For an account of this disease, see vol. IV.

GENUS LXXXIX. FRAMBOESIA.

The YAWS.

Framboesia, *Sauv.* gen. 125. *Sag.* 125.

We have also transferred our account of this disease to vol. IV.

GENUS XC. TRICHOMA.

The PLICA POLONICA, or *Plaited Hair*.

Trichoma, *Sauv.* gen. 311. *Sag.* 137.
Plica, *Lin.* 313.
Plica five Rhopalosis, *Vog.* 323.

This disorder is only met with in Poland and Lithuania, and consists of several blood-vessels running from the head into the ends of the hairs; which cleave together, and hang from the head in broad flat pieces, generally about an ell in length, but sometimes they are five or six yards long: one patient hath more or less of these, up to twenty, and sometimes thirty. They are painful to the wearer, and odious to every spectator. At the approach of

winter an eruptive fever happens to many in these countries: the eruptions principally infect the head, and when at the height an ichorous humour flows from them. In this state they are too tender to admit of being touched, and the matter running down the hairs mats them together; the skin by degrees breaking, the ramifications of the capillary vessels following the course of the hair, or prolonged out of the skin, are increased to a vast length.

No method of relief is yet known; for if the discharge be checked, or the vessels cut off, the consequence is an increase of more miserable symptoms, and in the end death. Sennertus says, when all the morbid matter is thrown out of the body the plicæ fall off spontaneously. He further observes, that the only safe practice in this case is, to solicit the peccant matter to the hairs, to which it naturally tends; and that this is best answered by lotions of bear's-breech. Some say, that a decoction of the herb clubmoss, and its seeds, with which the head is to be washed, is a specific.

See more on this subject in our fourth volume.

GENUS XCI. ICTERUS.

The JAUNDICE.

Icterus, *Lin.* 224. *Vog.* 306. *Boerb.* 918. *Junck.* 90.
 Aurigo, *Sauv.* gen. 306. *Sag.* 132.
 Cachexia icterica, *Hoffm.* III. 301.

1. *Description.*] The jaundice first shews itself by a listlessness and want of appetite, the patient becomes dull, oppressed, and generally costive. These symptoms have continued but a very short time, when a yellow colour begins to diffuse itself over the *tunica albuginea*, or white part of the eye, and the nails of the fingers; the urine becomes high coloured, with a yellowish sediment capable of giving a yellow tinct to linen; the stools are whitish or grey. In some there is a most violent pain in the epigastric region, which is considerably increased after meals. Sometimes the patient has a continual propensity to sleep; but in others there is too great watchfulness; and sometimes the pain is so great, that though the patient be sleepy he cannot compose himself to rest. The pains come by fits; and most women who have had the jaundice and borne children, agree, that they are more violent than labour-pains. As the disease increases, the yellow colour becomes more and more deep; an itching is felt all over the skin; and even the internal membranes of the viscera, the bones, and the brain itself, become tinged, as hath been shewn from dis-

sections, where the bones have been found tinged sometimes for years after the jaundice has been cured.

In like manner, all the secretions are affected with the yellow colour of the bile, which in this disease is diffused throughout the whole mass of fluids. The saliva becomes yellowish and bitter; the urine excessively high-coloured, in such a manner as to appear almost black; nay, the blood itself is sometimes said to appear of a yellow colour when drawn from a vein; yet Dr. Heberden says that he never saw the milk altered in its colour, even in cases of very deep jaundice. In process of time the blood begins to acquire a tendency to dissolution and putrefaction; which is known by the patient's colour changing from a deep yellow to a black or dark yellow. Hæmorrhages ensue from various parts of the body, and the patients frequently die of an apoplexy; though in some the disease degenerates into an incurable dropsy; and there have not been wanting instances of some who have died of the dropsy after the jaundice itself had been totally removed.

2. *Causes.*] As the jaundice consists in a diffusion of the bile throughout the whole system, it thence follows, that whatever may favour this diffusion is also to be reckoned among the causes of jaundice. Many disputes have arisen concerning the manner in which the bile is reformed into the blood; but it is now generally agreed that it is taken up by the lymphatics of the gall-bladder and biliary ducts. Hence, a jaundice may arise from any thing obstructing the passage of the bile into the duodenum, or from any thing which alters the state of the lymphatics in such a manner as to make them capable of absorbing the bile in its natural state. Hence the jaundice may arise from scirrhi of the liver or other viscera, pressing upon the biliary ducts, and obstructing the passage of the bile; from flatus distending the duodenum, and shutting up the entrance of the ductus communis choledochus into it; from the same orifice being plugged up by viscid bile, or other fordes; but by far the most frequent cause of jaundice is the formation of the calculi, or more properly biliary concretions: for although they were long considered as being of a calcareous nature, yet more accurate experiments have now demonstrated, that they consist principally of a sebaceous matter; accordingly, while they are so light as to swim in water, they are also highly inflammable. These are found of almost all sizes, from that of a small pea to that of a walnut, or bigger: they are of different colours; and sometimes appear as if formed in the inward part by crystallization, but of lamellæ on the outer part; though sometimes the outward part is covered with rough and shining crystals, while the inward part is lamellated. These enter into the biliary ducts, and obstruct them, causing a jaundice, with violent pain for some time; and which can be cured by no means till the concretion is either passed entirely through the ductus communis or returned

into the gall-bladder. Sometimes, in the opinion of many celebrated physicians, the jaundice is occasioned by spasmodic constrictions of the biliary ducts; but this is denied by others, and it is not yet ascertained whether these ducts are capable of being affected by spasm or not, as the existence of muscular fibres in them has not with certainty been discovered. It cannot, however, be denied, that violent fits of passion have often produced jaundice, sometimes temporary, but frequently permanent. This has been by some deemed a sufficient proof of the spasmodic contraction of the ducts; but their opponents suppose, that the agitation occasioned by the passion might push forward some biliary concretion into a narrow part of the duct, by which means a jaundice would certainly be produced, till the concretion was either driven backward, or forward into the duodenum altogether. But even supposing the ducts themselves to be incapable of spasm, yet there can be no doubt that by a spasm of the intestines, biliary concretions may be retained in the ducts; and indeed it is principally where the duct entering obliquely into the intestine, forms, as it were, a species of valve, that these concretions are retained.

In a very relaxed state of the body there is also an absorption of the bile, as in the yellow fever; and indeed in all putrid disorders there is a kind of yellowish tinct over the skin, though much less than in the true jaundice. The reason of this is, that in these disorders there is usually an increased secretion of bile, commonly of a thinner consistence than in a healthy state, while the orifices of the lymphatics are probably enlarged, and thus ready to absorb a fluid somewhat thicker than what they ought to take up in a healthy state; but these disorders are of short duration in comparison with the real jaundice, which sometimes lasts for many years. These affections, however, cannot with propriety in any case be considered as real instances of jaundice; for to constitute that disease, bile must not only be present in the blood, but wanting in the alimentary canal.

It is observable, that women are more subject to jaundice than men, which probably arises from their more sedentary life; for this, together with some of the depressing passions of the mind, are found to promote the accession of the disease, if not absolutely to produce it. Pregnant women also are frequently attacked by the jaundice, which goes off after their delivery.

3. *Prognosis.*] As jaundice may arise from many different causes, some of which cannot be discovered during the patient's life, the prognosis must on this account be very uncertain. The only cases which admit of a cure are those depending upon biliary concretions, or obstructions of the biliary ducts by viscid bile; for the concretions are seldom of such a size that the ducts will not let them pass through, though frequently not without extreme pain. Indeed this pain, though so violent, and almost intolerable

to the sick person, affords the best prognosis; as the physician may readily assure his patient that there is great hope of his being relieved from it. The coming on of a gentle diarrhoea, attended with bilious stools, together with the cessation of pain, are signs of the disease being cured. We are not, however, always to conclude, because the disease is not attended with acute pain, that it is therefore incurable; for frequently the passage of a concretion through the biliary ducts is accompanied only with a sensation of slight uneasiness.

4. *Cure.*] The great object to be aimed at in the cure of jaundice is unquestionably the removal of the cause which obstructs the passage of bile into the intestine: but before this can be accomplished, remedies are often necessary for alleviating urgent symptoms; which may be done sometimes by supplying the want of bile in the alimentary canal, sometimes by affording an exit for bilious matter from the general mass of blood, but most frequently by obviating the effects of distension and obstruction to the circulation in the system of the liver.

The measures to be employed for the removal of the obstruction must depend very much on the nature of the obstructing cause.

When the jaundice arises from indurated swellings or scirrhi of the viscera, it is absolutely incurable; nevertheless, as these cannot always be discovered, the physician ought to proceed in every case of jaundice as if it arose from calculi. The indications here are, (1) To dissolve the concretions; and, (2) To prevent their formation a second time. But unhappily the medical art has not yet afforded a solvent for biliary concretions. They cannot even be dissolved when tried out of the body either by acids or alkalies, or any thing but a mixture of oil of turpentine and spirit of wine; and these substances are by far too irritating to be given in sufficient quantity to affect a concretion in the biliary ducts. Boerhaave observes, that diseases of the liver are much more difficult to cure than those in any other part of the body; because of the difficulty there is in getting at the part affected, and the tedious and round-about passage the blood hath to it. The juice of common grass has indeed been recommended as a specific in the jaundice, but on no very good foundation. Glisson observes, that black cattle are subject to biliary concretions when fed with hay or dried straw in winter, but are cured by the succulent grass in the spring; and Van Swieten tells us a strange story of a man who cured himself of the jaundice by living almost entirely on grass, of which he devoured such quantities, that the farmers were wont to drive him out of their fields; but other practitioners have by no means found this in any degree effectual. The only method of cure now attempted in the jaundice is to expel the concretion into the intestines; for which vomits and exercise are the principal remedies. The

former are justly reckoned the most efficacious medicines, as they powerfully shake all the abdominal and thoracic viscera; and thus tend to dislodge any obstructing matter that may be contained in them. But if there be a tendency to inflammation, vomits must not be exhibited till bleeding has been premised. We must also proceed with caution if the pain be very sharp; for in all cases where the disease is attended with violent pain, it will be necessary to allay it by opiates before the exhibition of an emetic. There is also danger, that, by a continued use of vomits, a concretion which is too large to pass, may be so impacted in the ducts, that it cannot even be returned into the gall-bladder, which would otherwise have happened. In all cases, therefore, if no relief follows the exhibition of the second or third emetic, it will be prudent to forbear their further use for some time.

Of all kinds of exercise, that of riding on horseback is most to be depended upon in this disease. It operates in the same manner with vomits, namely, by the concussion it gives to the viscera; and therefore the cautions necessary to be observed in the use of vomits are also necessary to be observed in the use of riding. Cathartics also may be of service, by cleansing the *primæ viæ*, and soliciting a discharge of the bile into the intestines; but they must not be of too drastic a nature, else they may produce incurable obstructions, by bringing forward concretions that are too large to pass. Anodynes and the warm bath are serviceable by their relaxing quality, and there can be no doubt that, from acting as powerful antispasmodics, they often give an opportunity for the discharge of concretions by very slight causes, when they would otherwise be firmly retained. Soap has been supposed to do service as a solvent; but some think this is a mistake, and that it acts in no other way than as a relaxant or as a gentle purgative.

Dr. Saunders recommends (No. 237.) and (No. 403.) and also the following, to be used according to circumstances:

(No. 419.) \mathcal{R} Infus. gentian. comp. 3 x.

Kali præp. gr. x.

Sp. Piment. ʒij.

Misce fiat Haustus. Sumatur talis, vacuo stomacho, mane, iterumque hora ante prandium.

(No. 420.) \mathcal{R} Rhabarb. pulv. gr. viij.

Colomb. pulv. gr. x.

Pulv. aromat. gr. iij. M.

Sit pulvis, vel syrupo aurantii corticis addito, Bolus, mane nocteque sumendus, ex poculo aquæ Selteranæ.

(No. 421.) \mathcal{R} Rhabarb. pulv. ʒss.

Saponis ʒj.

Syr. zingiber. q. s. ut fiat Massa.

Dividatur in pilulas viginti, quarum sumantur iij. vel iv. bis die.

Dr. Hugh Smith recommends,
(No. 422.) R Extract. cathartic.

Sapon. amygdal. aa. ʒj.

Hydrarg. calcinat. gr. iij.

Ol. juniperi gtt. x.

Fiant pill. xxiv. sumend. iij. vel iiij. hora decubitus.

Vel, (No. 423.) R Vin. aloetic. alcalin.

Aq. cinnam. ten. aa. ʒj.

Tinct. rhabarb. ʒij.

Misce fiat Haustus.

(No. 424.) R Gum ammoniac,

Sapon. venet. aa. ʒjʒ.

Scillæ pulv.

Pulv. aromatic. aa ʒʒ.

Ol. junip. gtt. xx.

Syr. e cort. aurant. q. f.

Fiant Pil. singul. gr. v. sumend. iv. ter die, superbibend. Infus.

Rad. rubia tinct. ʒiv. vel ʒvj.

Vel, (No. 425.) R Sapon. venet. ʒj.

Pulv. rad. rub. tinct. ʒiij.

Rhabarb. ʒj.

Ol. junip. gt. xx.

Syr. balsamic. q. f.

Fiat Elect. sumend. ʒjʒ. ter die. Superbib. jul. sequent. coch. iij.

(No. 426.) R Aq. fontan. ʒvij.

Sp. cinnam. ʒʒ.

Sal. corn. cerv. vol.

Nitri purif. aa ʒj.

Syr. bals. ʒʒ. Misce.

When all means of relief fail, as in cases of scirrhus, we can then only attempt to palliate the symptoms, and preserve the patient's life as long as possible. This is best accomplished by diuretics; for thus a great quantity of bilious matter is evacuated, and the system is freed from the bad consequences which ensue on its stagnation in the habit. But even this is by no means equal to the common evacuation by stool; nor can all the attempts to supply the want of bile in the intestines by bitters and other stomachics restore the patient to his wonted appetite and vigour. If the pain be very violent, we must on all occasions have recourse to opiates; or if the blood has acquired a tendency to dissolution, it must be counteracted by proper antiseptics.

If the disease goes off, its return must be prevented by a course of tonic medicines, particularly the Peruvian bark and antiseptics: but we can by no means be certain that the jaundice will not return, and that at any interval; for there may be a number of concretions in the gall-bladder, and though one hath passed, another

may very quickly follow, and produce a new fit of jaundice; and thus some people have continued to be affected with the disease, at short intervals, during life.

In the East-Indies mercury has been lately recommended as exceedingly efficacious in disorders of the liver, especially those which follow intermitting and remitting fevers. Dr. Monro, in his Observations on the means of preserving the health of soldiers, acquaints us, that he has seen some icteric cases which he thought received benefit from taking a few grains of *calomel* at night, and a purge next morning; and this repeated two or three times a week.

Infants are subject to a temporary jaundice, commonly called the *gum*, soon after birth, the cause of which is not well understood. It differs remarkably from the common jaundice; as, in the latter, the disease is first discoverable in the white of the eyes; but though the skin of infants in the *gum* is all over yellow, their eyes always remain clear. The disorder goes off spontaneously, or by the use of a gentle purgative or two. In common cases the exhibition of *raw eggs* as food, is an easy cure.

CLASS IV. LOCALES.

VITIA, *Sauv.* Class I. *Lin.* Cl. XI. *Vog.* Cl. X. *Sag.* Cl. I.

Plagæ, *Sag.* Cl. II.

Morbi organici Auctorum.

ORDER I. DYSÆSTHESIÆ.

Dysæsthesiæ, *Sauv.* Cl. VI. Ord. I. *Sag.* Cl. IX. Ord. I.

GENUS XCII. CALIGO.

The CATARACT.

Caligo, *Sauv.* gen. 153. *Vog.* 288. *Sag.* gen. 259.

Cataracta, *Lin.* 109.

A *cataract* is an obstruction of the pupil, by the interposition of some opaque substance which either diminishes or totally extinguishes the sight. It is generally an opacity in the crystalline humour. In a recent or beginning *cataract*, the same medicines are to be used as in the *gutta serena*; and they will sometimes do good. But when this does not happen, and the cataract becomes firm, it must be couched, or else extracted by the surgeon. Hence

the subject comes to be particularly treated of in a subsequent volume.

There is but little reason to suppose that any medicine will be of use. A resolution can only be effected by an absorption of the opaque matter; and where this is possible, there is perhaps a better chance of its being effected by the agency of the electric fluid than by any other means. For this purpose electricity is chiefly applied under the form of the *electric aura*, as it has been called; but even this is very rarely successful.

GENUS XCIII. AMAUROSIS.

The GUTTA SERENA.

Amaurosis, *Sauv.* gen. 155. *Lin.* 110. *Vog.* 238. *Sag.* 261. Amblyopia, *Lin.* 108. *Vog.* 236.

A *gutta serena* is an abolition of the sight without any apparent cause or fault in the eyes. In every case it depends on an affection of some part of the optic nerve. But the affections which may produce this disease are of different kinds. When it is owing to a decay or wasting of the optic nerve, it does not admit of a cure; but when it proceeds from a compression of the nerves by redundant humours, these may be in some measure drained off, and the patient relieved. For this purpose, the body must be kept open with the laxative mercurial pills. If the patient be young, and of a sanguine habit, he may be bled. Cupping with scarifications on the back part of the head will likewise be of use. A running at the nose may be promoted by volatile salts, stimulating powders, &c.

The following snuff is recommended for this purpose by Mr. Ware:

(No. 465.) ℞ Hydrarg. vitriolat. gr. iij.

Pulv. glycyrrhiz. gr. xiv,

Fiat pulvis iterutatorius bis die utend.

But the most likely means of relieving the patient, are setons, issues, or blisters, kept open for a long time, on the back part of the head, behind the ears, or on the neck; which have been known to restore sight even after it had been for a considerable time lost. Should these fail, recourse must be had to a mercurial salivation; or (No. 162.) will perhaps answer the purpose better, the patient drinking half a pint of the decoction of sarsaparilla after it. Electricity has been found efficacious, when no other thing would do service; and here it has in some degree the same chance of success as in other cases of insensibility, depending on an affection of the nerves, in some of which it has certainly in particular cases been of use.

In the *amaurosis*, Dr. Porterfield observes, that it is of the utmost consequence to know of how long standing the disease has been; which is not always easily done if one eye only be affected. This is a very essential point; because an *amaurosis* of a long standing is altogether incurable. Mr. Boyle mentions the case of a man who had a cataract for several years without knowing it himself, though others did. He discovered it at last by happening to rub his sound eye, and was surprised to find himself in the dark.—When a person therefore has a *gutta serena* only in one of the eyes, he may think that the eye has but lately lost the power of sight; though this perhaps has been the case for several years. On the other hand, he may imagine that a recent disease of this kind is really of long standing. But by enquiring at what time he first became subject to mistakes in all actions that require the distance to be exactly distinguished, as in pouring liquor into a glass, snuffing a candle, threading a needle, we may discover the age of the disease, and thence be assisted to form a more just prognostic with respect to its cure. Dr. Porterfield gives an instance of his conjecturing in this manner concerning the case of a young lady, who had discovered a loss of sight in one of her eyes only the day before. The disease was thought to be of long standing; but as the doctor found that she had only been subject to mistakes of the kind above mentioned for about a month, he drew a favourable prognostic, and the disease was cured.

See more on this subject in the chapter on diseases of the eyes under SURGERY.

GENUS XCIV. DYSOPIA,

DEPRAVED VISION.

Amblyopia, Sauv. gen. 154. Sag. 258.

There are several species referred to this genus by Dr. Cullen, viz.

1. *Dysopia* TENEBRARUM.
2. *Dysopia* LUMINIS.

The former of these is properly the *nyctalopia*, or night blindness, of ancient authors. But amongst both the Greek and Latin writers, there is a direct opposition in the use of this word, *nyctalopia*; some saying it signifies “those who *cannot* see by night,” and others express by it “those who cannot see during the day, but during the *night*.”—The difference in the account of this disorder, as to its appearing in the night or in the day, is reconciled by considering it as of the intermitting kind: the difference then will consist in the different times of its approach; so it may be called *periodi-*

cal blindness. Intermittents appearing in a variety of modes, and the success of the bark in some instances of this sort of blindness both favour the opinion of its being an intermittent disease of the eyes; and this view has accordingly been taken of it by different writers, particularly in some papers in the London Medical Observations, and Medical Transactions.

3. *Dysopia PROXIMORUM* (*Presbytia*), or the defect of those who see only at too great distance.

4. *Dysopia DISSITORUM* (*Myopia*), or the defect of those who are *short-sighted*. These are disorders which depend on the original structure or figure of the eye, therefore admit of no cure. The inconveniences arising from them may, however, be in some measure remedied by the help of proper glasses. The former requires the aid of a convex, and the latter of a concave, glass.

5. *Dysopia LATERALIS*; a defect by which objects cannot be viewed distinctly but in an oblique position. Thus, in viewing an object placed on the left, they turn their face and eye to the right, and *vice versa*.—This disorder may proceed from various causes both natural and accidental, some of which admit of no remedy. If it be occasioned by a partial adhesion of the eye-lids the hand of the surgeon is required: if by a transverse position of the pupil, some mechanical contrivance is necessary. If it be owing to an *albugo* covering part of the pupil, or to a film rendering a portion of the cornea opaque, the remedies for these affections are to be here applied.

Some account of the dysopia appears in a letter addressed to Dr. Garthshore from Dr. Guthrie, physician to the Imperial corps of noble land cadets at St. Petersburg. This curious paper was read September 1st, 1794, in the Medical Society of London and afterwards appeared in their Memoirs.

“The curious disease,” says Dr. Guthrie, “which I have but very recently discovered in this country, I do not remember to have ever seen treated of by any British author, although I perceive it was not unknown to the indefatigable and learned Nosologist Sauvages, whom nothing seems to have escaped, and from whom Dr. Cullen seems to have taken his first species of dysopia, which is pretty nearly our disease, although only named by him.

“This singular complaint has been long known in the interior parts of the empire to the Russian peasants, who are subject to it, and who have named it *Kuritsba Slepota*, or the hen blindness, as the patient loses the use of his eyes at the setting, and recovers it again only at the rising, of the sun (even in summer when we have properly speaking no night), like the domestic hen, according to the popular opinion of the country, which has given origin to the fanciful name of the disease.

“Although settled so many years in Russia, it is but a very

short time since I heard of this disease on the following remarkable occasion.

“ I was desired last month, to give my opinion on a curious phenomenon that happened last war in Finland, when a Russian detachment, ordered to attack a Swedish post in a light night of spring, had like to have mistaken one another for our enemies, and occasioned bloodshed, from some hundreds in the column being blind after sun-set; this singular fact, which has been since confirmed to me by several officers, who served in the very corps wherein the disease occurred, set me upon immediate enquiry into the nature and frequency of the complaint, and I found that the peasants, to whom I already owe so much information, were the only people from whom I could get a distinct account of its cause and cure, so that the following history is in fact due to a class of civil society, whom Dr. Goldsmith had much reason to recommend to the attention of travellers, in all parts of the world, as patient observation in a succession of ages, has taught them many practical truths, arts, &c. by no means unworthy of the attention of the philosopher.

“ The *Kuritsba Slepota*, or hen blindness of the Russians, seems to be the *Dysopia Tenebrarum* of Cullen, and the *Amblyopia Crepuscularis* of Sauvages, whose specific or trivial name, appears to refer to the very species of the disease I am treating.

“ The result of all my village information was,

1. “ That the disease is pretty common among the Russian peasants, who have named it as above.

2. “ That they are generally seized with it after much fatigue and watching, more especially during the hay harvest, when they commonly work all night, to avoid the sultry heat of day, and sleep less than usual.

3. “ That it is attended with no pain, or even disagreeable feeling in the part affected, although the patient loses entirely his sight after sun set, in the lightest night in summer, and does not recover it till its rising again, although no one ever, on the most strict examination of the eye, can distinguish those who have, from those who have not the disease.

4. “ That its duration is only temporary, seldom lasting above a month or six weeks, even when the complaint is left to itself; but they know and use a village specific which removes it in a week or fourteen days at farthest.

“ This vegetable specific unfortunately the winter season has prevented me seeing a specimen of, but from all the descriptions I have got of it, as well as from its village name of *Cinets*, or blue flower must be the *Centaurea Cyanus* of Linnæus, the cornflower, or blue-bottle of Britain; although I shall have the plant brought to me next summer for greater certainty, This they drink in form of tea *without* honey, the peasants' sugar, which is seldom

wanting in a Russian village, if it would add to the virtues of the medicine."

On considering all these facts, Dr. Guthrie thinks he may hazard the following conclusions:

"That it appears this curious disease is commonly preceded by bodily fatigue and extraordinary vigil, at a season of the year when the eye is exposed, with little intermission, to the constant action of light, as the sun dips but very little below the horizon during our hay harvest (and of June and beginning of July), and that for a very short time, so that one might suspect that the disease proceeds from long-continued action of light on the eye, possibly producing some degree of weakness, as it is cured by the use of a bitter tonic infusion, even whilst the patient continues his hard labour during the day, provided he sleeps at night as at other seasons of the year.

"The curious event at the army seems to strengthen this conjecture, as the disease seized the soldiers in the spring, when the nights, from the short absence of the sun, and the strong reflection from the snow, must have been likewise very fatiguing to the eyes, at a period of much martial vigil and alarm, when surprises on both sides were frequent, and commonly nocturnal. However it must be remarked, that the complaint seems always connected with fatigue and inanition, as the regiment, where it affected so large a proportion of the men, had marched all the way from the Taurid, or Crim Tartary, to oppose the Swedes in Finland.

"As it may possibly furnish some matter of speculation to your numerous writers on the *scurvy*," continues Dr. Guthrie, "I shall add, that the regiment just mentioned, although composed mostly of recruits, generally most subject to the land scurvy, which sometimes rages amongst our troops during winter, and is only stopped by the return of the fine season, and its vegetable production, as I have remarked in the second volume of the second decade of the Medical Commentaries of Edinburgh: I say that this raw regiment, so very subject to the Kuritsha Slepota, was the *last* in the whole army that felt the septic influence of a northern winter (when not sufficiently guarded against it, by a large supply of prepared antiscorbutic vegetables), and who suffered the least by that fatal disease.

"This last piece of information, as well as that of their long march, I learned from Dr. Gallaway, a countryman, and one of the physicians to the army in Finland, who unfortunately had the charge of a military hospital, to which the soldiers, affected with the amblyopia crepuscularis, were not sent; or we should certainly have received a more complete history of it, than I have been able to collect from my unlettered informants.

"I cannot omit informing the society that, whilst making enquiries about the above-mentioned disease, I learnt a curious fact relative to one which is its diametric opposite, viz. the second spe-

cies of Cullen's *dyfopia luminis*, the *amblyopia meridiana* of Sauvages, who seems again to refer to the very species of the disease, described in the following anecdote:

"A gentleman belonging to one of the two imperial military cadet corps, of which I am physician, assured me that, whilst in garrison in Landau, in Alsace, he saw a disease the very reverse of the one I was enquiring after, viz. a number of men blind during the meridian splendor of the sun, although they saw very well in the evening, or whilst it was obscured in the day. He said that, during the summer of 1771 or 1772, two hundred soldiers, of the regiment of Picardie, the garrison of that fort, were seized with a species of blindness *in sun-shine*, insomuch that they could not see their way, or do any kind of work, if it was not overcast, so that when strolling in the fields during a cloudy day, if the sun suddenly broke out, they were obliged to be led by their companions, till a cloud once more obscured the glorious luminary, and enabled them to pursue their undirected course."

Dr. Guthrie observes in conclusion, that Dr. Blane, in his treatise on scurvy, mentions a similar weakness of the eyes to that of the *Kuritsha Slepota*, as a symptom of the scurvy, under the name of Nyctalopia, "but I presume," says the doctor, "it must be of a nature very different from the one I have treated of, as the Russian complaint is most prevalent at a season when vegetables are in great perfection, and when no symptom of scurvy ever appears in this climate (on shore at least), although it certainly does likewise sometimes appear towards spring, whilst the snow is still upon the ground, as in the case of the army in Finland; but then the nights, from their shortness, and the strong reflection from the snow, scarcely produce any darkness, so that the cause I have supposed above for the disease, obtains at that season, whilst it is by no means a winter complaint, and as far as I can learn very seldom appears then; indeed the peasants assert that it is not at all to be feared in frosty weather, even when they *travel at night*. Now I must add to all this, that I never once heard of the scurvy in Russia amongst the peasants, who are well guarded against it by the antiseptic quality of their food, nature having given them a taste for every thing that is sub-acid."

We may consider under this head, the incapacity of distinguishing colours. Of this extraordinary defect in vision, we have the following instances in the *Philosophical Transactions* for 1777. One of the persons lived at Maryport, in Cumberland. This account was communicated by Mr. Huddart to Dr. Priestley, and is as follows: "The man's name was Harris, by trade a shoe-maker. I had often heard from others, that he could discern the form and magnitude of all objects very distinctly, but could not distinguish colours. This report having excited my curiosity, I conversed with him frequently on the subject. The account he gave me was this: That he had reason to believe other persons saw something in ob-

jects which he could not see; that their language seemed to mark qualities with precision and confidence, which he could only guess at with hesitation, and frequently with error. His first suspicion of this arose when he was about four years old. Having by accident found in the street a child's stocking, he carried it to a neighbouring house to enquire for the owner: he observed the people called it a *red* stocking, though he did not understand why they gave it that denomination, as he himself thought it completely described by being called a *stocking*. This circumstance, however, remained in his memory, and, together with subsequent observations, led him to the knowledge of his defect.

"He also observed, that when young, other children could discern cherries on a tree, by some pretended difference of colour, though he could only distinguish them from the leaves by the difference of their size and shape. He observed also, that by means of this difference of colour they could see the cherries at a greater distance than he could, though he could see other objects at as great a distance as they, that is, where the sight was not assisted by the colour. Large objects he could see as well as other persons; and even the smaller ones if they were not enveloped in other things, as in the case of cherries among the leaves.

I believe he could never do more than guess the name of any colour; yet he could distinguish white from black, or black from any light or bright colour. Dove or straw colour he called *white*, and different colours he frequently called by the same name, yet he could discern a difference between them when placed together. In general, colours of an equal degree of brightness, however they might otherwise differ, he confounded together. Yet a striped ribbon he could distinguish from a plain one; but he could not tell what the colours were with any tolerable exactness. Dark colours, in general, he often mistook for black; but never imagined white to be a dark colour, nor dark to be a white colour.

"He was an intelligent man, and very desirous of understanding the nature of light and colours; for which end he had attended a course of lectures in natural philosophy.

"He had two brothers in the same circumstances as to sight; and two other brothers and sisters, who, as well as their parents, had nothing of this defect.

"One of the first-mentioned brothers, who is now living, I met with at Dublin, and wished to try his capacity to distinguish the colours in a prism; but not having one by me, I asked him, whether he had ever seen a rain-bow? he replied, He had often, and could distinguish the different colours; meaning only, that it was composed of different colours, for he could not tell what they were.

"I then procured, and shewed him a piece of ribbon: he immediately, and without any difficulty, pronounced it a striped, and not a plain, ribbon. He then attempted to name the different

stripes: the several stripes of white he uniformly and without hesitation called white: the four black stripes he was deceived in; for three of them he thought brown, though they were exactly of the same shade with the other, which he properly called black. He spoke, however, with diffidence, as to all those stripes; and it must be owned, that the black was not very distinct: the light green he called yellow; but he was not very positive: he said, 'I think this is what you call yellow.' The middle stripe, which had a slight tinge of red, he called a sort of blue. But he was most of all deceived by the orange colour; of this he spoke very confidently, saying, 'This is the colour of grass, this is green.' I also shewed him a great variety of ribbons, the colour of which he sometimes named rightly, and sometimes as differently as possible from the true colours.

"I asked him, whether he imagined it possible for all the various colours he saw to be mere difference of light and shade; and that all colours could be composed of these two mixtures only? With some hesitation he replied, No, he did imagine there was some other difference.

"It is proper to add, that the experiment of the striped ribbon was made in the day-time, and in a good light."

GENUS XCV. PSEUDOBLEPSIS.

IMAGINARY VISION of *Objects which do not exist.*

Suffusio, *Sauv. gen.* 217. *Sag.* 329.

Phantasma, *Lin.* 73. *Sag.* 289.

This very often takes place when the body is diseased, and then the patient is said to be delirious. Sometimes, however, in these cases, it does not amount to delirium; but the person imagines he sees gnats or other insects flying before his eyes; or sometimes, that every thing he looks at has black spots in it, which last is a very dangerous sign. Sometimes also sparks of fire appear before the eyes; which appearances are not to be disregarded, as they frequently precede apoplexy or epilepsy. Sometimes, however, people have been affected in this manner during life without feeling any other inconvenience. Such a disorder can rarely if ever be cured.

GENUS XCVI. DYSECŒA.

DEAFNESS, or *Difficulty of Hearing.*

GENUS XCVII. PARACUSIS.

Depravation of HEARING.

Paracusis, *Sauv.* gen. 159. *Sag.* 265.

Syrignus, *Sauv.* gen. 219. *Sag.* 231.

This disease exclusively belongs to SURGERY, and is accordingly treated of in our fourth volume.

GENUS XCVIII. ANOSMIA.

Defect of SMELLING.

Anosmia, *Sauv.* gen. 156. *Lin.* 113. *Vog.* 248. *Sag.* 262.

1. *Causes.*] Morbid affections in the sense of smelling may be considered, with respect to their causes, as arising from one of two sources: either from some organic affection of the parts here principally concerned, or from a mere atonic state of the parts, without any obvious affection. The sense of smelling may be diminished or destroyed by various diseases of the parts; as the moisture, dryness, inflammation, or suppuration, of that membrane which lines the inside of the nose, commonly called the *olfactory membrane*; the compression of the nerves which supply this membrane; or some fault in the brain itself, at their origin. A defect, or too great a degree of solidity, of the small spongy bones of the upper jaw, the caverns of the forehead, &c. may likewise impair the sense of smelling. It may also be injured by a collection of foetid matter in those caverns, which keeps constantly exhaling from them. Few things are more hurtful to the sense of smelling than taking great quantities of snuff.

2. *Cure.*] When the nose abounds with moisture, after gentle evacuations, such things as tend to take off irritation and coagulate the thin sharp serum may be applied; as the oil of anise mixed with fine flour, camphire dissolved in oil of almonds. &c. The vapours of amber, frankincense, gum-mastic, and benjamin, may likewise be received into the nose and mouth. For moistening the mucus when it is too dry, some recommend snuff made of the leaves of marjoram, mixed with oil of amber, and anised; or a sternutatory of calcined white vitriol, twelve grains of which may be mixed with two ounces of marjoram-water, and nitrated. The steam or vapour of vinegar thrown upon hot iron, received up the nostrils, is likewise of use for softening the mucus, opening obstructions, &c.; but, above all, anointing the inside of the nostrils, at bed-time, with hogs-lard.

If there be an ulcer in the nose, it ought to be dressed with some

emollient ointment, to which, if the pain be very great, a little laudanum may be added. If it be a venereal ulcer, it is not to be cured without mercury. In that case, the solution of the corrosive sublimate in brandy or proof spirit may be taken. The ulcer ought likewise to be washed with it; and the fumes of cinnabar may be received up the nostrils.

If there be reason to suspect that the nerves which supply the organs of smelling are inert, or want stimulating, volatile salts, sternutatory snuffs and other things which occasion sneezing, may be applied to the nose. The forehead may likewise be anointed with balsam of Peru, to which may be added camphor, or a little of the oil of amber.

GENUS XCIX. AGHEUSTIA.

Defect of TASTING.

Agheustia, *Sauv. gen.* 157. *Sag.* 263.

Agheustia, *Lin.* 114.

Apogeusis, *Vog.* 449.

1. *Cause.*] This disease, also, may arise either from an organic affection, or an atonic state of the parts. The taste may be diminished by crusts, filth, mucus, aphthæ, pellicles, warts, &c. covering the tongue; it may be depraved by a fault of the saliva, which, being discharged into the mouth, gives the same sensation as if the food which the person takes, had really a bad taste; or it may be entirely destroyed by injuries done to the nerves of the tongue and palate. Few things prove more hurtful either to the sense of tasting or smelling than obstinate colds, especially those which affect the head.

2. *Cure.*] When the taste is diminished by filth, mucus, &c. the tongue ought to be scraped, and frequently washed with a mixture of water, vinegar, and honey, or some other detergent. When the saliva is vitiated, which seldom happens unless in fevers or other diseases, the curing of the disorder is the cure of this symptom. To relieve it, however, in the mean time, the following practices may be of use: if there be a bitter taste, it may be taken away by vomits, purges, and other things which evacuate bile: what is called a *nidorous taste*, arises from putrid humours, is corrected by the juice of citrons, oranges, and other acids: a salt taste is cured by plentiful dilution with watery liquors: an acid taste is destroyed by absorbents and alkaline salts, as powder of oyster-shells, salt of wormwood, &c.

When the sensibility of the nerves which supply the organs of taste is diminished, the chewing of the root of pellitory, horseradish, or other stimulating substances, will help to recover it.

GENUS C. ANÆSTHESIA.

*Defect of the Sense of FEELING.*Anæsthesia, *Sauv.* gen. 161. *Lin.* 218. *Vog.* 267.

1. *Causes, &c.*] This sense may be hurt by any thing that obstructs the nervous influence, or prevents its being regularly conveyed to the organs of touch, as pressure, extreme cold, &c. It may likewise be hurt by too great a degree of sensibility, when the nerve is not sufficiently covered by the cuticle or scarf-skin, or where there is too great a tension of it, or it is too delicate. Whatever disorders the functions of the brain and nerves, hurts the sense of touching. Hence it appears to proceed from the same general causes as palsy and apoplexy, and requires nearly the same method of treatment.

2. *Cure.*] In a *stupor*, or defect of touching, which arises from an obstruction of the cutaneous nerves, the patient must first be purged; afterwards, such medicines as excite the action of the nerves, or stimulate the system, may be used. For this purpose, the spirit of hartshorn, either by itself, or combined with essential oils, horse-radish, &c. may be taken inwardly; the disordered parts, at the same time, may be frequently rubbed with fresh nettles, or spirit of sal ammoniac, or with the liniments (No. 61.), or (No. 62.). Blisters and sinapisms applied to the parts will likewise be of use; and also warm bathing, especially in the Bath waters.

ORDER II. DYSOREXIÆ.

SECT. I. APPETITUS ERRONEI.

Morositates, *Sauv.* Class VIII. Order II. *Sag.* Class XIII.

Order II.

Pathetici, *Lin.* Class V. Order II.Hyperæstheses, *Vog.* Class VII.

GENUS CI. BULIMIA.

INSATIABLE HUNGER, or *Canine Appetite.*Bulimia, *Sauv.* gen. 223. *Lin.* 79. *Sag.* gen. 335.Bulimus, *Vog.* 296.Addephagia, *Vog.* 297.Cynorexia, *Vog.* 298.

This disease is commonly owing to some fault in the stomach, by which the aliments are thrown out too soon; and unless the person be indulged in his desire for eating, he frequently falls into fainting fits. Sometimes it is attended with such a state of the stomach, that the aliment is rejected by vomit almost immediately

after being swallowed; after which the appetite for food returns as violent as ever. But there are many circumstances which seem to render it probable that it more frequently arises from a morbid condition of the secreted fluid poured into the stomach, by means of which the aliment is dissolved. When the activity of this fluid is morbidly increased, it will both produce too sudden a solution of the solid aliment, and likewise operate as a powerful and peculiar stimulus to the stomach, giving an uneasy sensation, similar to that which takes place in natural hunger. Such things are proper for the cure as may enable the stomach to perform its office: chalybeates and other tonics will generally be proper. In some, brandy drunk in a morning has been useful; and frequently smoking tobacco has relieved others. Oil, fat meat, pork, opiates, and in short every thing which in a sound person would be most apt to pall the appetite, may also be used as temporary expedients, but cannot be expected to perform a cure. In some, the pylorus has been found too large; in which case the disease must have been incurable.

Dr. Lettsom communicated to the Medical Society of London, the history of a case of canine appetite, with vomiting, in which *three hundred and seventy-nine pounds of solid and fluid aliment* were taken into the stomach in the space of *six days*. The case fell under the notice of Mr. Wastell, surgeon, in London.

With this immense quantity of nourishment, which was always taken voraciously, and soon after ejected, the patient became emaciated.

The recovery was effected by giving food boiled down to a jelly in small quantities, frequently repeated; by which means the tone of the stomach was gradually restored, and at length common aliment retained.

In the Medical and Physical Journal, No. XIII. an account is given of a man who lives upon large quantities of raw flesh, in a letter from Dr. Johnston, commissioner of sick and wounded seamen, to Dr. Biane. This gormandizer is named Charles Domery, a native of Benche, on the frontiers of Poland, aged 21. He was brought to the prison of Liverpool, in February, 1799, having been a soldier in the French service on board the Hoche, captured by the squadron under the command of Sir John B. Warren, off Ireland.

He is one of nine brothers, who, with their father, have been remarkable for the voraciousness of their appetites. They were all placed early in the army; and the peculiar craving for food with this young man, began at thirteen years of age.

He was allowed two rations in the army, and by his earnings, or the indulgence of his comrades, procured an additional supply. The account of his devouring raw, and even alive, cats, rats, &c. besides bullocks' liver, tallow candles, and the entrails of animals,

in great quantity, and with a truly bestial voracity, is too disgusting to repeat. We shall therefore confine ourselves to the following relation of the experiment made in confirmation of these extraordinary facts.

“ Wishing fairly,” says the reporter, Dr. Cochrane, “ to try how much he actually could eat in one day ; on the 7th of September, 1799, at four o’clock in the morning, he breakfasted on four pounds of raw cow’s udder ; at half past nine, in presence of Dr. Johnston, commissioner of sick and wounded seamen, Admiral Child and his sons, Mr. Foster, agent for prisoners, and several respectable gentlemen, he exhibited his powers as follows : There were set before him five pounds of raw beef, and twelve tallow candles of a pound weight, and one bottle of porter ; these he finished by half past ten o’clock. At one o’clock, there was again put before him, five pounds of beef, and one pound of candles, with three bottles of porter ; at which time he was locked up in the room, and sentries placed at the windows to prevent his throwing away any of his provisions. At two o’clock, when I again saw him with two friends, he had nearly finished the whole of the candles, and great part of the beef, but had neither evacuation by vomiting, stool, nor urine ; his skin was cool, and pulse regular, and he in good spirits. At a quarter past six, when he was to be returned to his prison, he had devoured the whole, and declared he could have eat more ; but from the prisoners without, telling him, we wished to make some experiment on him, he began to be alarmed. It is also to be observed, that the day was hot, and not having his usual exercise in the yard, it may be presumed, he would have otherwise had a better appetite. On recapitulating the whole consumption of the day, it stands thus :

Raw cow’s udder	—	4lb.
Raw beef	—	10
Candles	—	2

Total — 16 lb. besides five bottles of
porter.

“ The eagerness with which he attacks his beef when his stomach is not gorged, resembles the voracity of a hungry wolf, tearing off large morsels with his teeth, rolling them about in his mouth, and swallowing them with canine greediness. When his throat is dry from continued exercise, he lubricates it by stripping the grease off the candle between his teeth, which he generally finishes at three mouthfuls, and wrapping the wick like a ball, string and all, sends it after, at a swallow. He can, when no choice is left, make shift to dine on immense quantities of raw potatoes, or turnips ; but, from choice, would never desire to taste bread or vegetables.

“ He is in every respect healthy, his tongue clean, and his eyes lively.

“ After he went to the prison, he danced, smoked his pipe, and drank a bottle of porter; and by four next morning, he awoke with his usual ravenous appetite, which he quieted by a few pounds of raw beef.

“ He is six feet three inches high, pale complexion, grey eyes, long brown hair, well made but thin, his countenance rather pleasant, and he is good-tempered.”

To the above, which is attested by five respectable persons, besides Dr. Cochrane, the inspector and surgeon of the prisons, and agent for sick and wounded seamen, is added the following queries and answers.

“ 1. What is the quantity and quality of his fæces?

“ He goes to stool commonly morning and afternoon, in a smaller or larger quantity, according to the victuals he eats; but the fæces are by no means proportioned to the *ingesta*, and, indeed, seldom exceeding those of other men. They are always of the same consistence, generally hard, but of no extraordinary colour; and this last is the same, whether he eats vegetables or not with his animal food. They are not particularly offensive.

“ 2. What are the circumstances of his sleep and perspiration?

“ He gets to bed about eight o'clock at night, immediately after which he begins to sweat, and that so profusely, as to be obliged to throw off his shirt. He feels extremely hot, and in an hour or two after goes to sleep, which lasts until one in the morning, after which he always feels himself hungry, even though he had lain down with a full stomach. He then eats bread or beef, or whatever provision he may have reserved through the day; and if he has none, he beguiles the time in smoking tobacco. About two o'clock he goes to sleep again, and awakes at five or six o'clock in the morning in a violent perspiration, with great heat. This quits him on getting up; and when he has laid in a fresh cargo of raw meat (to use his own expression), he feels his body in a good state. The perspiration, whether sensible or insensible, has no remarkable smell; indeed, much less than that of many persons who live on a very different regimen. He sweats while he is eating; and it is probably owing to this constant propensity to exhalation from the surface of the body, that his skin is commonly found to be cool, as is stated in the narrative.

“ 3. What is his heat by the thermometer?

“ I have often tried it, and found it to be of the standard temperature of the human body. His pulse is now eighty-four, full and regular.

“ 4. Can this ravenous appetite be traced higher than his father?

“ He knows nothing of his ancestors beyond his father. When he left the country, eleven years ago, his father was alive, aged about fifty, a tall, stout man, always healthy; and he can remember he was a great eater, but was too young to recollect the

quantity, but that he eat his meat half boiled. He does not recollect that either himself, or his brothers, had any ailment, excepting the small-pox, which ended favourably with them all. He was then an infant; his face is perfectly smooth.

“ 5. Does he make much urine?

“ With his ordinary allowance of drink, not more than a quart in the day. He says, the smell is not more offensive than that of other men. On board of the transports, coming from Ireland, he drank his own urine as often as he voided it, for want of drink, and yet he never vomited it.

“ 6. Is his muscular strength greater or less than that of other men of his time of life?

“ Though his muscles are pretty firm, I do not think they are so full or plump as those of most other men. He has, however, by his own declaration, carried a load of three hundred weight of flour in France, and marched fourteen leagues in a day.

“ 7. Is he dull or intelligent?

“ He can neither read nor write, but is very intelligent and conversable, and can give a distinct and consistent answer to any question put to him. I have put a variety at different times, and in different shapes, tending to throw all the light possible on his history, and never found that he varied, so that I am inclined to believe that he adheres to the truth.

“ 8. Under what circumstances did this voracious disposition first come on?

“ It came on at the age of thirteen, as has been already stated. He was then in the service of Prussia, at the siege of Thionville; they were at that time much straitened for provision, and as he found this did not suit him, he deserted into the town. He was conducted to the French general, who presented him with a large melon, which he devoured, rind and all, and then an immense quantity and variety of other species of food, to the great entertainment of that officer and his suite. From that time he has preferred raw to dressed meat; and when he eats a moderate quantity of what has been either roasted or boiled, he throws it up immediately. What is stated above, therefore, respecting his never vomiting, is not to be understood literally, but imports merely that those things which are most nauseous to others, had no effect upon his stomach,

“ 9. Is there any thing remarkable regarding his venereal appetite or powers?

“ Upon enquiry I do not find there is any thing remarkable in this man, in these respects;

“ There is nothing further to remark, but that since the attested narrative was drawn up, he has repeatedly indulged himself in the cruel repasts there described, devouring the whole animal, ex-

cept the skin, bones, and bowels; but this has been put a stop to, on account of the scandal which it justly excited.

“ In considering this case, it seems to afford some matters for reflection, which are not only objects of considerable novelty and curiosity, but interesting and important, by throwing light on the process by which the food is digested and disposed of.

“ Monstrosity and disease, whether in the structure of parts, or in the functions and appetites, illustrate particular points of the animal economy, by exhibiting them in certain relations in which they are not met with in the common course of nature. The power of the stomach in so quickly dissolving, assimilating, and disposing of the aliment in ordinary cases, must strike every reflecting person with wonder; but the history of this case affords a more palpable proof, and more clear conception of these processes, just as objects of sight become more sensible and striking, when viewed by a magnifying glass, or when exhibited on a larger scale.

“ The facts here set forth, tend also to place in a strong light, the great importance of the discharge by the skin, and to prove that it is by this outlet, more than by the bowels, that the recrementitious parts of the aliment are evacuated; that there is an admirable co-operation established between the skin and the stomach, by means of that consent of parts so observable, and so necessary, in the other functions of the animal economy; and, that the purpose of aliment is not merely to administer to the growth and repair of the body, but by its bulk and peculiar stimulus to maintain the play of the organs essential to life.”

A case of chronic dysphagia, which originated from a ravenous appetite, is published by Dr. Hagstrom, in the *New Transactions of the Royal Academy of Sciences at Stockholm*, vol. XIX. for 1798.

In the year 1797, a gardener died suddenly, in the 62d year of his age, in consequence of a violent colic. This man was of a spare habit and thin appearance; he had always been afflicted with such a ravenous appetite, that he consumed as much food as four other persons, and nevertheless complained of insatiable hunger. He had frequently been subject to the colic and a violent heart-burn, and three or four years previous to his death, he was confined to his bed for six months by a similar disease, attended with constant vomiting. For several years towards the latter period of his life he could take only liquid food, administered by spoonfuls. Dr. Hagstrom attended him for three years; but without being able to perform a cure. On dissecting the body after death, the lungs, liver, and heart, were in a perfectly sound state; but the stomach was of a monstrous appearance, being three times the usual size. It contained from three to four quarts of matter resembling the yolk of an egg, when boiled hard and cut into small pieces, while it was extremely pungent and acid. In the mesen-

tery were two small indurations, scarcely the size of a common pea. One part of the œsophagus was so indurated and constricted, that a goose quill could with difficulty be introduced. The parietes of this callous cylinder were half an inch thick, and its length measured about two inches. The author is of opinion, that the distension of the stomach and its atonic state originated from the uncommon voraciousness of the patient; and there not being a sufficient quantity of the gastric juice to dissolve the food, the ingesta had assumed such corrosive properties as readily produced the colic and heartburn; particularly as the œsophagus had been much ulcerated by frequent vomiting.

GENUS CII. POLYDIPSIA.

EXCESSIVE THIRST.

Polydipsia, *Sauv. gen.* 224. *Lin.* 80. *Vog.* 275. *Sag.* 336.

This is almost always symptomatic; and occurs in fever, dropsy, fluxes, &c. The cure is very generally obtained only by the removal of the primary diseases; and it is best palliated by the gradual introduction of diluents: but when these are contraindicated, it may often be successfully obviated by such articles taken into the mouth as have effect in augmenting the flow of saliva; and of these, few are so effectual as the root of *pellitory*.

The Medical and Physical Journal furnishes us with the following instances of this affection. The first is communicated by Dr. Dyce of Aberdeen to Dr. Bradley.

“Cases of polydipsia happening so rarely,” says the doctor, “it is not to be wondered at if practitioners in general are deficient in their knowledge of the manner of treating such complaints, when they actually occur in practice. I, for one, confess myself ignorant of the method in which such a case ought to be treated; for, having never met with it as an original disease, I was almost induced to believe that it could only happen in consequence of some other existing complaint, as fever, &c. On these occasions, thirst is a very common attendant, and is easily removed by curing the primary disease; but when it happens without any other complaint or symptom to direct us to the cause, it requires some knowledge of similar cases to enable one to prescribe effectually. —The following being a case in point, I beg leave to request your opinion on the subject, presuming that, from your extensive practice, you may have met with something of the like kind, and therefore may be able to direct me in the proper mode of treatment, which shall be implicitly followed.

“A lady, some months ago, applied to me for advice, on

account of a very extraordinary thirst which she at that time laboured under, attended with no other symptom of disease, excepting that she was now and then affected with what she termed a weakness of her nerves. Her appetite for food has never been in the smallest degree impaired; on the contrary, since she has been affected in this way, it has been rather better than before: her bowels, at the commencement, were not perfectly regular, but, by means of some gentle aperient medicines, this was soon removed; her tongue, during the whole period, has been quite clean; and the only medicines she has taken were of the aperient and tonic kind; an emetic might have been proper, but the bad effects produced by one taken some years ago, deterred me from proposing it at this time.

"Having asked her a number of questions relative to her former habit of body, &c. I learned that the catamenia stopped about seven years ago; and about, or rather before, that time, she was seized with an uncommon spitting, which lasted nearly eight months, after which she was quite well. The smell of what was spit up was extremely fœtid; and, in the course of the day, two or three handkerchiefs would have been used in consequence. About two years ago the spitting again returned, but continued for a short time, as it was only in a trifling degree: since that time she has kept in a tolerably good state of health till August last, at which time, being in the country, she ate about fifty or sixty cherries in a forenoon, and complained of being rather uneasy; for which she swallowed about half a glass of brandy, and was relieved. She ate her dinner, &c. just as usual, but next day the thirst commenced, and has continued much in the same way ever since. The quantity necessary for her drink in twenty-four hours may amount to about three quarts, or at most one gallon; at the same time she says, that an equal quantity of urine is secreted. About a month after she was affected in this way, she was seized with a very violent tooth-ach (her teeth being mostly carious); he applied a blister behind the ear, which, together with some doses of laudanum, to the amount of twenty-five, seldom more than thirty drops, to produce rest, procured her relief; during this period, which was about ten days, she had little or no thirst, but whenever the pain ceased the thirst returned. For some days past she has been taking a few drops of laudanum every night at bed-time (not more than twelve), from which she thinks that she has found some relief, not in her thirst, but in being less nervous. She has also complained, within these few days, of a slight degree of cramp in the muscles of the left leg and foot, attended with some heat in the palms of her hands; but these being in no great degree, have not been much attended to."

The following case and observations on polydipsia succeed those of Dr. Dyce, who expressed himself desirous of receiving some hints

upon the treatment of it. They are written by Mr. Peaal of Aberdeen.

“ J. F. a man aged about 45 years, of a dark complexion, well boned and muscular, but not inclined to corpulency, has been affected for two months with violent thirst, which has never had any remission since he was first affected with it. In the night-time, he says, that his thirst is very great, and that he puts down a large decanter, containing one Scots pint of water, at his bedside, which is not sufficient for him during the night. In the twenty-four hours he will drink more than two gallons. He says, that he has no other complaint but thirst, except that he is generally costive. His appetite is much impaired, and he has seldom a desire for food; he sweats profusely during the night and towards morning, and is often obliged to change his linen. Sometimes the quantity of water which he drinks makes his belly feel full, hard, and painful. He sleeps pretty well some nights, but is often obliged to rise early in the morning, on account of the thirst and sweating. Since he has been affected with this complaint he is more dejected in his spirits than formerly, and has not the same desire for working; this, he says, is owing to his strength being somewhat diminished. He secretes a large quantity of urine, and voids it without pain; it has much the appearance of the urine of diabetic patients. His pulse is about ninety in the minute. Three years since he conducted a distillery of whisky, and was then liable to be affected with great and sudden changes from heat to cold alternately. After the high duties were laid on, he gave up the distilling business and took himself to farming, which is his present employment. He was married and had several children; his wife died about a year and a half since, and within this last six months he has married a young woman. When I considered this patient's former course of life,” says Mr. Peaal, “and the state of matrimony which he had lately entered into, I concluded that the cause of the thirst was debility. I once saw a case of a gouty patient who was affected with a very violent thirst instead of a paroxysm of the gout, it yielded to nearly the same treatment as was employed for this patient. With the intention of removing the debility, and restoring the system to its former degree of strength, I had recourse to tonics. Considering the cortex to be among the chief of this kind of medicines, I prescribed it as follows :

(No. 427.) \mathcal{R} Cinchonæ pulveratæ \mathfrak{ssj} .

Zinci vitriolati \mathfrak{zfs} .

Mix them accurately together, and divide into sixteen doses; one to be taken four a times every day in a glassful of wine.

“ I ordered porter for his common drink, and a nourishing diet. After using the bark for four days he complained of costiveness; I ordered him one ounce of castor oil, which operated very well.

To palliate the uneasy thirst, I prescribed the tamarind decoction. After he had used these medicines for eight days he found his thirst much diminished. He then took an opiate every night, and fifteen drops of the acid elixir of vitriol in a glassful of water, three or four times every day; and a dose of castor oil every seven days, which relieved the uneasiness and hardness of his belly very much. By persisting in this course for four weeks his thirst was almost gone. To perfect the cure, I prescribed for him a journey into the country, that he might have the advantage of a change of air, and drink chalybeate water; but he could not get time spared for the purpose, and, as he was better, he continued at his usual employment at home."

GENUS CIII. PICA.

LONGING, or *Falsè Appetite*.

Pica, *Sauv. gen.* 222. *Sag.* 334.

Citta, *Lin.* 78.

Allotriophagia, *Vog.* 299.

Malacia, *Vog.* 300.

The pica is also very generally symptomatic of other diseases, as of worms, chlorosis, pregnancy, &c.; and is, therefore, chiefly to be removed by the removal of the primary affection. It may, however, be observed, that peculiar longings occurring in certain diseases, as, for example, in fevers, often point out a natural cure. The indulgence of such appetites to a moderate degree is seldom productive of any inconvenience, and often followed by the best consequences.—Hence, there are some practitioners who think that such craving should very generally be indulged; particularly when the patient can assign no reason whatever for such particular longings, but is merely prompted by an uncommon and inexplicable desire.

As a variety of this disease, we may not improperly consider that tropical one to which Dr. Chisholm has given the name of *Cachexia Africana*.

The similarity between this disease, to which the negro slaves newly imported into the West Indies are subject, and one to which young females are liable, in most countries, we presume will not escape the observation of practical readers: and we do not hesitate to pronounce, that the same theory may be safely applied to both.

"There is," says Dr. Chisholm, "a disease to which the negroes, and particularly those newly imported, are much subject: it is named by us *Mal d'Estomac*, or *Cachexia Africana*; and, from a constant symptom which attends it, dirt-eating, by some. (See Dr. Hunter,

on the *Diseases of Jamaica*.) Negroes also, who have been some time in the country, are subject to this disease, but not so frequently as amongst the former. It affects those who have, generally speaking, been badly clothed, ill-fed and lodged, and whose constitutions have been worn out by hard labour. The mind partaking of the sufferings of the body, is affected with nostalgia, brooding over their ill treatment, separated from friends and relations, and doomed to suffer without daring to complain.

“The first symptom, and which indeed is both the cause and effect, is a fondness for solitude, sadness, grief, and despondency; a loss of appetite, or a desire only for what is pungent and stimulant; difficulty of breathing, especially in walking up a hill; a painful gastrodynia, palpitation of the heart, general debility, drowsiness, paleness of the face and palms of the hands; the tongue white, sometimes with an appearance like stains of ink upon it; the lips colourless; the tunica adnata of a glassy whiteness, as also the teeth; the skin of an olive complexion, and cold to the touch, with a rough surface, and the papillæ elevated; anasarcaous swellings of the eye-lids, face, and extremities; water is afterwards collected in the belly and chest, and the unhappy sufferer can only breathe in an erect posture, for fear of instant suffocation; the pulse is always small, and generally becomes quicker towards night. There is, during the disease, an unwillingness to attempt, and inability to perform, motion.

“Morbid changes take place throughout the alimentary canal, in consequence of the vitiated state of the gastric juice and impeded digestion; a morbid acidity prevails, and a symptom arises from this cause, which, with some, has given name to the disease, —a habit of eating chalk, dirt, or whatever will obtund acrimony.

“This vitiated action is propagated throughout the whole alimentary canal; the lacteals are abraded by acrimonious fluids, and no longer possess the power of absorbing healthy chyle; hence the lymphatic glands of the mesentery become inflamed and indurated. The blood poor, vapid, and colourless, no longer stimulates the heart and arteries to action; hence asphyxia and sudden death, and those polypous concretions found in the heart after death.

“It is to the want of irritability of the blood that we are to ascribe obstruction of the menstrual flux in women, in this disease.

“From this short account of the disease, which has no other merit than truth, you will be prepared for the appearances upon dissection:

“The stomach is found much enlarged, and thickened in its coats; the liver sometimes enlarged and scirrhus, but always preternaturally white; the gall-bladder sometimes with biliary concretions; the bile never of a healthy appearance, generally thin and watery, and slightly yellow or green; the mesenteric glands

indurated and schirrous. Those appearances induced a medical practitioner in a neighbouring island to employ mercury, with a view of removing, as he supposed, obstructions; but a very small quantity of it excited such terrible effects as obliged him to desist. Accumulated irritability, from the abstraction of the usual stimuli, had rendered them more susceptible of the slightest stimulus.

"From this view of the disease, the pathology and treatment of it, I conceive, will be easily understood. Resembling scurvy in some respects, it differs from it only in the symptoms of putrid diathesis not being so obvious—putrid animal food not having been here employed as an article of diet. The same defect of oxygen prevails in both diseases; and it is probable, that we would find the same benefit from the use of acescent vegetables, but we have not here the same putrid diathesis to obviate; and the stomach has been already so much debilitated by weak vegetable diet, that it requires a more stimulant plan, animal food, wine, warm clothing, a gentle treatment, &c. The preparations of iron are here found of the most essential service. Much benefit has also been derived from weak fermented liquors: acescent cane-liquor has cured many."

GENUS CIV. SATYRIASIS.

Satyriasis, *Sauv.* gen. 228. *Lin.* 81. *Sag.* 340.

Satyriasis is a violent desire of venery in men, even so that reason is depraved by it. The pulse is quick, and the breathing short; the patient is sleepless, thirsty, and loathes his food; the urine is evacuated with difficulty, and a fever soon comes on. These symptoms, however, are probably not so much the consequence of satyriasis, as merely concomitant effects resulting from the same cause. And indeed this affection is most frequently the concomitant of a certain modification of insanity. The nature and cause of this affection are in most instances very little ascertained; but as far as we are acquainted with the treatment, it agrees very much with the affection next to be mentioned, which, of the two, is the most common occurrence.

GENUS CV. NYMPHOMANIA.

FUROR UTERINUS.

Nymphomania, *Sauv.* 229. *Sag.* 341.
 Satyriasis, *Lin.* 81.

1. *Description.*] The *furor uterinus* is, in most instances, either a species of madness, or a high degree of hysterics. Its immediate cause is a preternatural irritability of the uterus and pudenda of women (to whom the disorder is proper), or an unusual acrimony of the fluids in these parts.—Its presence is known by hysterical signs, and the wanton behaviour of the patient: she speaks and acts with unrestrained obscenity, and, as the disorder increases, she scolds, cries, and laughs, by turns. While reason is retained, she is silent, and seems melancholy, but her eyes discover an unusual wantonness. The symptoms are better and worse until the greatest degree of the disorder approaches, and then by every word and action her condition is too manifest.

2. *Cure.*] In the beginning a cure may be hoped for; but if it continue it degenerates into a mania. In order to the cure, blood-letting is generally had recourse to in proportion to the patient's strength. Camphor, in doses of fifteen or twenty grains, with nitre, and small doses of the tincture of opium, should be repeated at proper intervals. Some give *asafætida* in doses from five to ten grains. Besides bleeding, cooling purges should also be repeated in proportion to the violence of the symptoms, &c. What is useful in maniacal and hypochondriac disorders, is also useful here, regard being had to sanguine or phlegmatic habits, &c. When the delirium is at the height, give opiates to compose; and use the same method as in a phrenitis or mania. Injections of barley-water, with a small quantity of hemlock-juice, according to Riverius, may be frequently thrown up into the uterus; this is called *specific*, but matrimony, if possible, should be preferred. For although this cannot be represented as a cure for the disease when in an advanced state, yet there is reason to believe that it has not unfrequently prevented it where it would otherwise have taken place.

GENUS CVI. NOSTALGIA.

*Veheement DESIRE of REVISITING one's COUNTRY.*Nostalgia, *Sauv.* gen. 226. *Lin.* 83. *Sag.* 338.

This is to be reckoned a species of melancholy; and unless it be indulged, it very commonly proves not only incurable but even fatal. Although it cannot be considered as altogether peculiar to any nation, yet it is observed to be much more frequent with some than with others; and it has particularly been remarked among Swiss soldiers in the service of foreign states.

SECT. II. APPETITUS DEFICIENTES.

Anepithymia, *Sauv.* Class VI. Ord. II. *Sag.* IX. Ord. II.Privativi, *Lin.* Class VI. Ord. III.Adynamia, *Vog.* Class VI.

GENUS CVII. ANOREXIA.

*Want of APPETITE.*Anorexia, *Sauv.* gen. 162. *Lin.* 116. *Vog.* 279. *Sag.* 268.

The anorexia, is symptomatic of many diseases, but seldom appears as a primary affection; and it is very generally overcome only by the removal of the affection on which it depends.

GENUS CVIII. ADIPSIA.

*Want of THIRST.*Adipsia, *Sauv.* gen. 163. *Lin.* 117. *Vog.* 281. *Sag.* 269.

This, by Dr. Cullen, is reckoned to be always symptomatic of some disease affecting the *sensorium commune*.

GENUS CIX. ANAPHRODISIA.

*Impotence to VENERY.*Anaphrodisia, *Sauv.* gen. 164. *Sag.* 270.Atecnia, *Lin.* 119.Agenesia, *Vog.* 283.

Impotence, or an inability to coition, is, with respect to men, improperly reckoned the same as sterility in women; since many women are sterile who, nevertheless, are fully capable of the venereal act. The disease then, which requires to be considered, is that defect of the organs of generation, which so affects the regular exercise of their functions, as to cause an inability of propagating the species. This, however, falling most commonly in the way of the surgeon, we have transferred the subject to our fourth volume.

ORDER III. DYSCINESIÆ.

GENUS CX. APHONIA.

*Loss of VOICE.*Aphonia, *Sauv.* gen. 166. *Lin.* 115. *Vog.* 253. *Sag.* 272.

1. *Description.*] The loss of voice may proceed from various causes. If one of the recurrent nerves, which are formed by the *par vagum* and the *nervus accessorius*, and reach the larynx, be cut, the person is capable of only, as it were, a half pronunciation; but if both be cut, the speech and voice are both lost. The loss of speech happening in hysteric patients is called *aphonia*, but more properly that loss of speech is thus named which depends on some fault of the tongue.

Seeing that the motion of any part is destroyed, or lessened, at least by the interception of the nervous power in its passage thither, and that the nerves destined for the motion of the tongue arise principally from the fifth pair of nerves, it evidently appears that the seat of this disorder is in the said fifth pair of nerves, and that the immediate cause is a diminution or total destruction of the nervous power in them. Hence a palsy of the tongue, which is either antecedent or subsequent to hemiplectic or apoplectic disorders, demands our utmost attention.

If an aphonia appears alone, it generally bespeaks an approach-

ing hemiplegia, or apoplexy; but if it succeed these disorders, and is complicated with a weak memory, and a sluggishness of the mental powers, it threatens their return. That aphony usually terminates the best which proceeds from a stagnation of serous humours compressing the branches of the fifth pair of nerves, which run to the tongue; but it is no less afflictive to the patient, and is very obstinate of cure.

Other causes of this disorder are, the striking in of eruptions on the skin, a congestion of blood in the fauces and tongue, obstructed periodical evacuations in plethoric habits, spasmodic affections, worms, a crumb of bread falling into the larynx, fear, too free an use of spirituous liquors; also whatever destroys the ligaments which go from the arytenoid to the thyroid cartilages, will destroy the voice.

2. *Prognosis.*] The prognostics vary according to the cause or causes. That species which is owing immediately to spasms soon gives way on the removal of them. If a palsy of the tongue be the cause, it is very apt to return, though relieved, but often continues incurable.

3. *Cure.*] In order to the cure, we must endeavour first to remove whatever obstructs the influx of the nervous fluid into the tongue, and secondly to strengthen the weak parts. These general intentions, in all cases, being regarded, the particular causes must be removed as follows:

If worms be the cause, antispasmodics may give present relief; but the cure depends on the destruction or expulsion of the animals themselves. In case of a congestion of blood about the head, bleeding with leeches, or cupping, and drastic medicines, are to be used.—That species of aphony which remains after the shock of an hemiplegia or apoplexy, requires blisters to be applied to the nape of the neck; other means are rarely effectual.—If spasmodic constrictions about the fauces and tongue be the cause, external pectorics are of the greatest service, anodyne antispasmodics may be laid under the tongue, and the feet bathed in water; carminative clysters also are useful.—When a palsy of the tongue produces this complaint, evacuations, according to the patient's habit, must be made, and warm nervous medicines must be externally applied, and internally administered; blisters also should be placed between the shoulders.—In case of repelled cuticular eruptions, sudorifics should be given, and the patient's drink should be warm. The *spiritus ammonie succinatus*, or *vinum antimonii*, may be employed either in combination with other articles, or by themselves, and given, at proper distances of time, in the patient's drink.

GENUS CXI. MUTITAS.

DUMBNESS.

Mutitas, *Sauv.* gen. 265. *Vog.* 257. *Sag.* 271.

Dumb people are generally born deaf; in which case the disease is incurable by medicine: though even such people may be taught not only to read and write, but also to speak and to understand what others say to them. The method in which this has been accomplished is extremely curious, but not to our purpose in the present work. In these cases, the dumbness proceeds principally, if not solely, from the deafness. For when it proceeds from a defect of any of the organs necessary for speech, the tongue for instance, it is always incurable; but if it arise from a palsy, the medicines applicable in that case will sometimes restore the speech.

It is fortunate for persons in this lamentable situation, that some ingenious methods are now taken to supply their deficiencies, by the exercise of those senses that remain to them. Several schools for instructing the deaf and dumb are to be found in London, and one of them is a charitable establishment.

GENUS CXII. PARAPHONIA.

Change in the sound of the VOICE.

Paraphonia, *Sauv.* gen. 168.

Cacophonia, *Sag.* 274.

Raucedo, *Lin.* 146.

Raucitas, *Vog.* 252.

Asaphia, &c. *Vog.* 250, 251, 254, 255, 256.

The voice may be changed from various causes. In males it becomes much more hard about the time of puberty; but this can by no means be reckoned a disease. In others it proceeds from a catarrh, or what we call a *cold*; it arises also from affection of the nose and palate, as polypi, ulcers, &c. in which case the cure belongs properly to *Surgery*. In some it arises from a laxity of the *velum pendulum palati* and glottis, which makes a kind of snoring noise during inspiration. The cure of this last case is to be attempted internally, by tonics and such other medicines as are of service in diseases attended with laxity, and by the topical use of camphorated spirits.

GENUS CXIII. PSELLISMUS.

Defect in PRONUNCIATION.

Psellismus, *Sauv.* gen. 167. *Lin.* 138. *Sag.* 273.
Traulotis, &c. *Vog.* 258, 259, 260, 261.

Of this disease (if such it may be called) there are many different kinds. Some cannot pronounce the letter S; others labour under the same difficulty with R, L, M, K, &c.; while some who can with sufficient ease pronounce all the letters, yet repeat their words, or the first syllables of them, in such a strange manner, that they can scarce be understood. Very frequently these defects arise entirely from habit, and may then be got the better of by those who have the resolution to attempt it; as we are told that Demosthenes, the celebrated orator, got the better of a habit of stammering by declaiming with pebbles in his mouth. Sometimes, however, pronunciation may be impeded by a wrong conformation of the tongue or organs of speech; and then it cannot by any means whatever be totally removed.

GENUS CXIV. STRABISMUS.

SQUINTING.

Strabismus, *Sauv.* gen. 116. *Lin.* 304. *Vog.* 514. *Sag.* 222.

As this disease is only to be remedied by external aid, it is considered under *Surgery* in our fourth volume.

GENUS CXV. CONTRACTURA.

Contractions of the LIMBS.

Contractura, *Sauv.* gen. 119. *Lin.* 299. *Sag.* 225.
Obstipitas, *Sauv.* gen. 11.
Caput obstipum, *Vog.* 513.
Digitium, *Vog.* 221.

The contraction of various muscles of the body is generally the consequence of some other disease, as the rheumatism, gout, scurvy, or palsy, especially that species of the latter which follows the *colica Pictonum*. It is exceedingly difficult of cure; though the Bath waters are commonly found of the greatest service.

These are not only taken internally, with suitable regimen, to invigorate the system; but they are also projected by a pump upon the affected part, and sometimes the whole body is immersed in the bath.

Electricity also, occasionally, has performed surprising cures in this way. The usual mode of applying it is by small shocks, strong sparks, or what is called *electrical friction*, where the ball of a charged jar is rubbed over the affected part, whilst a piece of coarse flannel is interposed.

Some contracted limbs have been restored by plunging them every day into hot brewers' grains, and afterwards bathing the parts principally affected with *neats-foot oil*, in which a small portion of camphor has been dissolved. This subject, however, will be more particularly treated under *Surgery*.

ORDER IV. APOCENOSES.

Apocenosés, *Vog.* Class II. Ord. II.

Fluxus, *Sauv.* Class IX. *Sag.* Class V.

Morbi evacuatores, *Lin.* Class IX.

GENUS CXVI. PROFUSIO.

FLUX of BLOOD.

Profusio, *Lin.* 239.

Hæmorrhagia, *Vog.* 81. *Boerb.* 218.

The disease commonly known by the name of *bloody flux*, is the putrid or contagious DYSENTERY, a disease which has already been treated of. But independent of the discharge of blood which then takes place, hæmorrhagy may take place from the alimentary canal, as well as from other parts of the system. In such instances, however, if we except the place from which the discharge occurs, the phenomena are much the same as in *menorrhagia*, *hæmoptysis*, and other hæmorrhagies already treated of; while the disease is to be combated on the same principles and by the same remedies.

GENUS CXVII. EPHIDROSIS.

Excessive SWEATING.

Ephidrosis, *Sauv.* gen. 258. *Sag.* gen. 194.

Sudor, *Lin.* 208.

Hydropedesis, *Vog.* 121.

This is generally symptomatic; and occurs in almost all fevers, but especially in the latter stages of the hectic. Sometimes it is a primary disease, arising merely from weakness; and then easily admits of a cure by the use of the Peruvian bark, the cold bath, and other tonics. (Vide Form. No. 49. and 50.)

GENUS CXVIII. EPIPHORA.

FLUX of the LACHRYMAL HUMOUR.

Epiphora, *Sauv.* gen. 259. *Lin.* 172. *Vog.* 99. *Sag.* 195.

This by Sauvages is described as an involuntary effusion of tears without any remarkable itching, heat, or pain. It follows long-continued ophthalmias; or it may be occasioned by immoderate study, or any thing that weakens the eyes: hence it comes on about the age of fifty years, when the eye-sight naturally becomes weak. It in general grows worse in the winter time, and is very hard to cure. Some authors recommend purgatives, and blisters on the nape of the neck, in order to draw off the abundant humours; but as the disease evidently proceeds from weakness, it would rather seem proper to pursue a contrary method. Sauvages recommends to the patients to abstain from study, wine, and salted meats; and also to avoid smoke or wind, and at night to foment the eyes with an infusion of four cloves in two ounces of proof-spirit. Mr. Ware's treatment of this complaint will be found under *Surgery*.

GENUS CXIX. PTYALISMUS.

SALIVATION.

Ptyalismus, *Sauv.* gen. 261. *Lin.* 176. *Vog.* 103. *Sag.* 197.

A salivation is often symptomatic, but rarely a primary disease. Dr. Cullen is of opinion, that when the latter happens to be the

case, it arises from laxity; and then is to be cured by astringents and tonics. In the Medical Transactions we have the following account of a salivation brought on by a foreign substance irritating one of the parotid glands.

" In the month of April, 1751, a young lady, about the age of sixteen years, of a delicate habit, but subject to no particular complaints, perceived the beginning of a disease which afterwards proved most obstinate and loathsome, viz. an incessant spitting. The quantity of this discharge was different at different times, varying from one pint to two pints and a half in twenty-four hours. As to its quality, it seemed to be no other than the ordinary secretion of the salival glands. By so large and constant an evacuation, her strength became extremely impaired, and the most efficacious medicines had proved useless. She had taken large quantities of the Peruvian bark, both alone and combined with preparations of iron: and afterwards the fetid gums, opium, amber, alum, and the Neville-Holt-water, had in succession been given her. In the mean time an exact regimen had been prescribed: she had been ordered to ride constantly, and to confine herself to mucilaginous diet, such as veal, calves' feet, &c. Likewise a gently opening medicine had now and then been interposed. The disease still continued unaltered: she had afterwards tried the *tinctura saturnina*; and had, at the same time, been encouraged to chew the Peruvian bark, and to swallow the saliva. But all these attempts had been vain: and after she had taken some or other of the medicines above mentioned until the end of September, 1753, namely, above two years, it appeared to her physician, Sir George Baker, unreasonable to expect relief in such a case from any internal medicines whatever.

He now conceived a suspicion, that some extraneous body having accidentally found its way into the *meatus auditorius*, might possibly be the cause of this extraordinary secretion, by keeping up a continued irritation in the parotid glands. With this view he examined her ears, and extracted from them a quantity of fetid wool. How, or when, it came thither, no account could be given.

To this substance he attributed the beginning of the salivation, notwithstanding that the disease did not immediately abate on the removal of the wool; as it appeared to be no improbable supposition that the discharge might be continued by the force of habit, though the original cause no longer remained.

It seemed therefore expedient to introduce some other habit, in the place of the increased secretion of saliva; which habit might afterwards be gradually left off. With this intention, he prevailed on the patient to chew a little dry bread, and to swallow it with her spittle. In a few weeks it became necessary for her to chew the bread only at certain hours in the day; and thus, after two

months, she become entirely free from a most disgusting and tedious disorder.

It is worthy of observation, that, at first, the swallowing of so much saliva frequently occasioned a nausea: and that then, for a few hours, she was obliged to spit it out as usual, and that, during the greatest part of the time, when she chewed the bread, she had a stool or two every day more than common.

GENUS CXX. ENURESIS.

An involuntary FLUX of URINE.

Enuresis, *Sauv.* gen. 264. *Lin.* 195. *Vog.* 113. *Sag.* 200.

This is a complaint which frequently affects children, otherwise healthy, when asleep; and is extremely disagreeable. Often it is merely the effect of laziness, and may be driven off by proper correction; but sometimes it proceeds from an atony or weakness of the sphincter of the bladder. Many ridiculous cures have been prescribed for it, and among the rest field-mice dried and powdered; tonics are frequently of use; but sometimes the disease proves obstinate, in spite of every thing we can use. In the London Medical Observations we find blisters much recommended in this disease, when applied to the region of the os sacrum. A girl of thirteen years of age had been subject to an enuresis for four years. She could retain her water but a very little while in the day-time, but it flowed continually in the night. She had taken Peruvian bark and elixir of vitriol in considerable quantities, also Valerian and the volatile julep, without effect. She was severely threatened, as the physician suspected it might arise from a bad habit; but this producing no effect, a blister was applied to the os sacrum, which in twenty-four hours totally removed the disease. A man aged thirty-two, having been seized with an incontinence of urine and palsy of the lower extremities in consequence of taking a quack medicine, was cured of the incontinence of urine in twenty-four hours by one blister, and of the palsy itself by another. A woman of fifty having been seized with an *enuresis* and paralytic affection of the right thigh and leg in consequence of a strain, was cured of both by a single blister. Several other cases are there mentioned, by which the power of blisters in removing this complaint seems to exceed that of every other medicine whatever.

In the Medical and Physical Journal, we find the following instance of this disease successfully treated by the exhibition of *hepatised ammonia*.

“A young man with whom I am acquainted,” says the writer, “had been, from his infancy, troubled with an incontinence of

urine, the discharge of which he was not at any time able to suppress, particularly during night. The copious evacuation of this secretion necessarily caused a constant and considerable degree of debility, but I never noticed any symptoms of hectic. A disease so distressing and unpleasant in itself, naturally induced his friends to seek every possible means of relief, by applying to several physicians of eminence, whose prescriptions and advice, although exactly followed, produced no good effect; on the contrary, the malady continued to increase with his years. I had heard much promised from the introduction of the hepatised ammonia, and was tempted in this instance to essay its virtue. I previously examined the state and appearance of the urine voided, and found it to possess both that peculiar smell and saccharine taste, so commonly distinguished in cases of diabetes. On holding it to the light in a glass vessel, it exhibited the appearance of a blueish-red colour, which rendered it somewhat cloudy and opaque; placed in any other situation it appeared perfectly limpid. He began, according to my directions, with taking three drops of the specific, night and morning, in a little water; this he gradually increased to twenty or twenty-five drops each dose: I also desired him to use animal, and abstain from vegetable food, and ordered for his common drink some water of an alkaline quality. In this regimen he punctually persisted, till he obtained the intended benefit: from the commencement of this course, he gradually amended, the evacuations of his urine became less frequent, and at length not involuntary; by degrees it perceptibly lost its unhealthy taste, smell, and colour, and in short, he is at this time entirely released from his disagreeable disorder, and seems to acquire daily his usual strength and vigour."

GENUS CXXI. GONORRHŒA.

Gonorrhœa, *Sauv.* gen. 208. *Lin.* 200. *Vog.* 118. *Sag.* 204.

The gonorrhœa is a flux of viscid matter of various colours from the urethra in men and the vagina in women. It commonly proceeds from coition with a person infected with the *venereal disease*, and is one of the most common forms under which that disease shews itself. The treatment belongs to *Surgery*.

ORDER V. EPISCHESES.

GENUS CXXII. OBSTIPATIO.

COSTIVENESS.

Obstipatio, *Lin.* 166. *Vog.* 128. *Sag.* 221.

Costiveness is sometimes occasioned by debility in dyspeptic persons, sometimes it is the effect of rigidity, and sometimes it is symptomatic of the colic. It may proceed from an excessive heat of the blood; drinking rough red wines, or other astringent liquors; too much exercise, especially on horseback: it may likewise proceed from a long use of cold insipid food, which does not sufficiently stimulate the intestines. Sometimes it is owing to the bile not descending to the intestines, as in the jaundice; and at other times it proceeds from diseases of the intestines themselves, as a palsy, spasm, tumors, a cold dry state of the intestines, &c.

Excessive costiveness is apt to occasion pains in the head, vomiting, colics, and other complaints of the bowels. It is peculiarly hurtful to hypochondriac and hysteric persons, as it generates wind and other distressing symptoms.

Persons who are generally costive should live upon a moistening and laxative diet; as roasted or boiled apples, pears, stewed pines, raisins, gruels with currants, butter, honey, sugar, and such like. Broths with spinach, leeks, and other soft pot-herbs, are likewise proper. Rye-bread, or that which is made of a mixture of wheat and rye together, ought to be eaten. No person troubled with costiveness should eat white bread alone, especially that which is made of fine flour. The best bread for keeping the belly soluble is what in some parts of Europe they call *meslin*: it is made of a mixture of wheat and rye, and is very agreeable to those who are accustomed to it.

Costiveness is increased by keeping the body too warm, and by every thing that promotes the perspiration; as lying too long a-bed in a morning, &c. Intense thought, and a sedentary life, are likewise hurtful. All the secretions and excretions are promoted by moderate exercise without doors, and by a gay, cheerful, sprightly, temper of mind.

The drink should be of an opening quality. All ardent spirits, austere and astringent wines, as port, claret, &c. ought to be avoided. Malt liquor that is fine and of a moderate strength is very proper. Butter-milk, whey, and other watery liquors, are likewise proper, and may be drank in turns, as the patient's inclination directs.

Those who are troubled with costiveness ought, if possible, to

remedy it by diet, as the constant use of medicines for that purpose is attended with many inconveniences, and often with bad consequences. In time the custom becomes necessary, and generally ends in a total relaxation of the bowels, indigestion, loss of appetite, wasting of the strength, and death.

The learned Dr. Arbuthnot advises those who are troubled with costiveness, to use animal oils, as fresh butter, cream, marrow, fat broths, &c. He likewise recommends the expressed oils of mild vegetables, as olives, almonds, pistaches, and the fruits themselves all oily and mild fruits, as figs; decoctions of mealy vegetables which lubricate the intestines; some saponaceous substances which stimulate gently, as honey, hydromel, or boiled honey and water unrefined sugar, &c.

The doctor observes, that such lenitive substances are proper for persons of dry atrabiliarian constitutions, who are subject to a stricture of the belly, and the piles, and will operate when stronger medicinal substances are sometimes ineffectual; but that such lenitive diet hurts those whose bowels are weak and lax. He likewise observes, that all watery substances are lenitive; and that even common water, whey, sour milk, and butter-milk, have that effect:—that new milk, especially asses' milk, stimulates still more when it sours on the stomach; and that whey, turned sour, will purge strongly:—that most part of fruits are likewise laxative; and that some of them, as grapes, will throw such a take them immoderately into a cholera morbus, or incurable diarrhoea.

When the body cannot be kept open without medicine, a grain of aloes at bed-time, or a gentle dose of rhubarb, may be taken twice or thrice a-week. This is not near so injurious to the stomach as jalap, or the other drastic purgatives so much in use. Infusions of senna and manna may likewise be taken, or half an ounce of tartarised kali dissolved in water-gruel. About the size of a nutmeg of lenitive electuary taken twice or thrice a-day, generally answers the purpose very well. (Vide Form. No. 197. and 198.)

The following very interesting account of the case of a man who had no evacuation from the bowels for nearly fifteen weeks before his death, is given by Dr. Baillie, of London, in the Transactions of a society for medical and chirurgical improvement:

“A shoemaker, aged 30, was of a costive habit, but had otherwise enjoyed good health. He used generally to have three or four stools in the week till within eight months of his death. From that period he became much more costive, having a stool only once in a week, or sometimes once in a fortnight. When he passed a stool he felt some pain at the lower part of the belly. The costiveness still went on increasing, so that he had no evacuation by the bowels for nearly fifteen weeks before he died. The

last evacuation by the bowels was on the 21st of February, and he died on the 4th of June. In this state his belly began to swell, and at length arrived at an enormous size. The distension of the belly seemed principally to be occasioned by wind which had accumulated in the bowels. There was a sudden reaction of the integuments of the belly upon removing from them the pressure of the fingers, as in a common bladder filled with air; and the patient often passed a considerable quantity of wind through the œsophagus. No wind however was discharged by the rectum. He commonly complained of a good deal of pain about the navel, and sometimes over the whole abdomen. During the latter part of his illness, when the abdomen was swelled to a very large size, the peristaltic motion of the bowels could be distinctly seen through the parietes of the abdomen, and the bowels appeared evidently very much distended.

“The patient’s appetite for food was, through the greater part of his illness, as good as in health; but within a fortnight of his death it failed him. He took then very little, most commonly a small quantity of wine or porter, with some toasted bread; but these were often rejected by vomiting about a quarter of an hour after they had been swallowed.

“His pulse was generally about 84 or 86, was rather full but not hard. When he felt any considerable increase of pain in the belly, it rose to above 100. Towards the latter part of his illness the pulse was often above 100, and sometimes felt a little hard. During the whole of his illness, he breathed with tolerable ease, notwithstanding the great distension of his belly, and he passed his urine without difficulty.

“A short time before his death he became extremely emaciated in his face, and within the last 24 hours he complained of a very severe pain in the region of the stomach. During a part of his illness he was a patient under my care at St. George’s hospital. He was admitted March 8, 1797, and was discharged by his own desire on the 24th of the same month, having received no relief while there.

“Whilst he stayed in the hospital, the strongest purgative medicines were administered, both by the mouth, and in the form of clyster, but without the smallest success. He took a bolus, containing five grains of calomel, and ten grains of gamboge, but without its being followed even by any attempt at an evacuation by stool. Twenty grains of calomel, and thirty grains of jalap were also given, but without any effect. An enema was administered, containing two drachms of gamboge, but it was very soon evacuated without being accompanied with any faeces. Another was administered on the following day, containing three drachms of gamboge, but without the desired effect. Tobacco smoke was also injected in vain.

“He was directed to take a pill, containing four grains of Eia-

terium, but this made him sick without producing any evacuation by stool. Shocks of electricity were sent through the abdomen for several days. Cold water was dashed upon his feet, but both of these means were ineffectual. He wished to try the effect of swallowing some crude quicksilver, as he thought he had once received some temporary ease from it before he was admitted into the hospital. Accordingly he swallowed three ounces of quicksilver, but it was retained, no part of it having passed by the anus. Some globules of quicksilver appeared mixed with the fæces, upon examining the body after death."

As the patient received no benefit, during his stay in St. George's hospital, he was, by his own desire, discharged, but visited occasionally by Dr. Baillie, at his own house, and very frequently by a pupil of the hospital. "After his leaving the hospital," says the doctor, "nothing was attempted for the patient's relief by my direction, except that a scoop was desired to be introduced into the rectum, in order to break down the fæces mechanically, if they should be found within reach, and in that way to remove them. Upon a candle being introduced into the rectum, it was discovered to be empty: the scoop therefore was not introduced. At length all trial was given up, his belly became more swelled, his feelings more distressing, and his strength more exhausted, till he sunk under the violence of the disease, and died on the 4th of June. On the evening of the following day I examined his body in the presence of Dr. Marshall, Dr. Clough, and some medical students.

"When the abdomen was laid open, the stomach was found to be flaccid, but was healthy in its structure. The small intestines, except the duodenum, were very much distended, but still more so were the great intestines, which seemed to be above six inches in their transverse diameter. Upon the surface of both the small and the great intestines, were observed little patches and narrow bands of a florid red colour, which were composed of a great crowd of very minute blood-vessels. The small intestines, except the duodenum, were filled with air; the great intestines were filled partly with air, and partly with fæces. The fæces were accumulated principally at the lower end of the sigmoid flexure of the colon, and were gradually less in quantity to the cæcum. There were no fæces in the small intestines, except at the very lower end of the ilium, and the small quantity which was found there might have been forced through the valve of the colon by the pressure of the hand against the cæcum in examining the body. The fæces were properly coloured by bile, were of the consistence of soft mortar, and although they had been so long retained in the intestines, were not more fœtid than usual. The great intestines, where they were so much distended, had their muscular coat a good deal thickened, and the longitudinal bands were at least twice as thick and broad as in the natural state. At the lower part of the sigmoid flexure of the colon, there was a very narrow stricture,

accompanied with an ulcer, which was partly in the situation of the stricture and partly in the gut immediately above it. The stricture was so narrow as hardly to allow more than a large goose-quill to pass through it. The rectum under the stricture was found.

"The liver and the gall-bladder were in a natural state, but the other abdominal viscera could not well be examined on account of the distended state of the bowels. They were probably healthy, as no symptom occurred during life which led to any suspicion of disease in them.

"The cavity of the thorax was a good deal diminished in its size in consequence of the distended state of the abdomen, but the viscera in it were free from disease.

"In reflecting upon this singular case, the following observations naturally arise. The stricture at the beginning of the rectum is to be considered as the cause of all the symptoms. It was so narrow as to prevent both the feces and air from passing into the rectum. The rectum being empty, the urinary bladder was allowed to enlarge itself sufficiently for the ordinary accumulation of the urine, and the patient neither made water with difficulty, nor was obliged to void it frequently.

"This case shews a very strong power in the system of accommodating itself for a great length of time, to circumstances which appear almost incompatible with the continuance of life. As the feces could not be evacuated on account of the stricture, the great intestines became larger in proportion to the accumulation of the feces. As the great intestines were frequently exerting a strong peristaltic motion, in order to evacuate the feces, the muscular coat was thereby thickened and rendered stronger, so as to become in some degree proportioned to the difficulty in expelling them. The stricture however was too narrow for these efforts to overcome the difficulty.

"The smell of the feces was not more disagreeable than is usual in the sound state of the bowels, and they were not putrid. This probably took place in consequence of their being excluded from the air.

"The stomach retained its healthy functions till within about fortnight of the patient's death, and this enabled him to support life for so long a time under so formidable a disease."

Dr. Baillie professes not to have heard of any instance in which a person continued to live for so great a length of time without an evacuation of the feces; and concludes with shortly relating an account of a case similar to it, in a man aged 57, mentioned to him by Mr. Home. In that case, "the length of time in which the patient had no evacuation by the bowels before his death, was only 20 days. When the abdomen was examined after death, a stricture was found at the upper part of the rectum, which was so tight as to seem as if the intestine had been drawn together by

a piece of packthread. The colon was a good deal distended with fæces, and the small intestines, as high up as the duodenum, were also somewhat distended, probably with air. There was no unusual distension in the duodenum and the stomach, but they seemed in every respect to be in their natural state."

GENUS CXXIII. ISCHURIA.

SUPPRESSION of *Urine*.

Ischuria, *Sauv.* gen. 293. *Lin.* 167. *Vog.* 129. *Sag.* 212. *Home's Clinical Experiments*, sect. xv.

This complaint is distinguished into various species, according as the seat of it is in the kidneys, the ureters, the bladder, or the urethra; and hence these species are named *renalis*, *ureterica*, *vesicalis*, and *urethralis*. The two first only will be considered in this place.

(1.) *Ischuria renalis*, or a suppression of urine from an affection of the kidneys, happens but rarely; however, Dr. Home in his *Clinical Experiments* describes such a case. In the end of December, 1774, a man of a full habit, aged thirty five, was seized with shivering, coldness, and severe cough. Three days after, his urine appeared high coloured, was passed with pain, and in small quantity. About the eighth of January, 1775, he was attacked with violent pains in the small of his back, over the whole abdomen, and in the ancles, with pain in the region of the liver when pressed. A general swelling was afterwards observed all over the body, but mostly in the ancles and abdomen, which last was tense and hard. These were attended with vomiting, bad appetite, and considerable thirst. When he entered the clinical ward (January 21st), the cough, sickness, and vomiting, had gone off, but the suppression of urine remained. The little which he made was passed with his stools, so that Dr. Home saw it but once; and then it was pale, and had a white powder at bottom. The pains and swellings, which retained the impression of the finger, continued; he had a head-ache, and a very slow pulse, beating only forty-eight strokes in a minute. He had taken a great many diuretic medicines before he came in. The day after his reception, he was seized with a spontaneous diarrhœa, which continued during the remainder of his life. Crystals of tartar were exhibited in doses of half an ounce each morning; at bed-time he took twenty drops of tincture of opium, with a scruple of nitre, and continued this course for eight days without any increase of urine. The stronger and heating diuretics were then tried, as an infusion of juniper berries and pills of garlic; but they were attended with

no sensible advantage. Whenever the pulse became so strong that he could bear bleeding, eight ounces of blood were taken away, which was fizy. This was thrice repeated; he appeared easier after each bleeding, his pulse bore it well, and the swellings and other symptoms abated. The heating diuretics, in this state, were given up; and a mixture of vinegar and nitre was substituted in their place, in each dose of which, taken every two hours, there was a scruple of nitre. Fomentations were applied to the region of the kidneys, and camphorated oil was afterwards rubbed on the part. He was ordered the semicupium, which, from a deficiency of water in the hospital at that time, he got only once; and which then seemed to have a good effect, as he passed a gill of urine when he was in it. Notwithstanding this, however, the disease continually gained ground; he became comatose, delirious, and died ten days after his admission.—On dissection, the kidneys were found of an irregular form; some watery vesicles appeared on their surface, containing black gritty particles like fine sand; and the lower part of the right kidney was considerably inflamed. The pylorus, part of the duodenum, and a considerable part of the small intestines, were much inflamed. In the abdomen were found about five pounds of fluid, and in the cavities of the thorax about half a pound. The lungs were a little inflamed, and full of small tubercles on their surface and in their substance: the heart was large, with a polypus in each ventricle. About six ounces of fluid were found in the pericardium: in the brain nothing preternatural appeared, except about an ounce of water in each ventricle.

Dr. Home seems to have been at a loss for the remote cause of this suppression of urine, which manifestly had its immediate origin from the kidneys having lost the power of performing their functions. He thinks the inflammation which appeared in the right kidney was scarce sufficient to have occasioned the disease, as the other would have supplied its place: for which reason also he thinks that the ischuria was owing to a general affection of the system; and that it was of an arthritic nature, the patient having been troubled with complaints of that kind for a long time before.

An interesting account of this disease, drawn up by Mr. Senter, a military surgeon in America, and communicated by Dr. Lettsom, to the medical society of London, appears in their Memoirs. The author relates this case in the following words:

“Lucy Foster, aged 15 years, a fleshy, healthy-looking, well-proportioned young woman, was taken, June 1st, 1785, with a pain in the left hypochondrium, accompanied with cough, fever, oppression at her breast, and difficulty of breathing.

“Being in very poor circumstances, her friends neglected asking advice, till about a fortnight from her first seizure, when I was called to her assistance.

"I was informed by her mother that she became a woman at 13, and continued pretty regular in her menses, till within five weeks of her present illness; and that, from her seeing nothing during that period, she supposed her to have taken a bad cold, as she was very inattentive to her health, and had been obliged to do the duty of a servant maid in a family at the other end of the town.

"Her pulse was upwards of 100 in a minute; her tongue coated with that sort of fur, which often accompanies a bad kind of chronic inflammation of the thoracic viscera.

"I took ten ounces of blood from her arm, gave her an emetic and directed an epispastic of flies to the affected side. The blood when cool, threw up its coagulable lymph, as is common in *pneumonic* inflammation; but the buff was tender, and the crassamentum and serum did not separate, as is usual in cases of acute inflammation of the breast.

"Expectorant febrifuge mixtures were given her with emollient pulans of barley water, &c. and another blister applied to her side within a few days. These medicines produced an abatement of the symptoms, and in the course of three weeks I ceased to visit her. I however looked upon her disease to have a strong tendency to a consumption, and about the fourth week from my first seeing her, she vomited up a quantity of bloody pus, of a very disagreeable kind, which, with the preceding symptoms, induced me to think a vomica had burst in her stomach: during the whole of this illness, from my first visiting her, her stomach was so irritable, that it was with much difficulty that either food or medicine could be made to sit upon it, and she often vomited up the most simple barley drink.

"She had a suppression of urine for twenty-four hours, but did not get any aid from medicine, as nature relieved herself. She however, became regular in her menses, and recovered so far in about two months, as to return to her usual labour, and continued capable of doing her duty to the satisfaction of her employer till the June following, 1786. On the third of this month I was desired to visit her again, when I found all her old complaints (except the suppression of her menses) returned with greater severity than they appeared the last year. She was now let blood, and treated in other respects as before: her distress continuing so great, that I found it necessary to repeat the operation (drawing small quantities) several times, as nothing else appeared to afford her any considerable relief.

"Her tongue was covered with a yellowish coat in the middle and an ash colour at the edges; her pulse beat 120 strokes in a minute.

"The irritability of her stomach was so great, that it had become extremely difficult to give any article either of medicine or

nourishment but what she vomited up immediately. The *effervescent* draughts, infusions of *columbo* with *Sweet Spirits of Nitre* and *Sp. Vitriol. Liq. anodyn min.* &c. were tried without any lasting effect. Opium gave the most permanent relief, and afforded her that refreshment by sleep which she could obtain by no other means.

"As I now looked upon her case to be of long continuance, and residing in a distant part of the town, I called but seldom, after the severity of her symptoms had subsided; which they did in about three weeks.

"On the second of July, she was seized with a total suppression of urine, without any perceptible cause; which continued five days, not being able to avoid a single drop; and notwithstanding her pain and distress were very great, she did not let her circumstances be fully known to her friends, for fear of having it drawn off with an instrument. The beginning of the 6th day, she was taken with a vomiting which lasted till she brought up nothing but water, which she said, tasted in every respect like urine.

"As her vomiting continued, she found relief in the bottom of her belly, from the swelling and great soreness she had felt for several days.

"She now thought herself much better, but her vomiting recurred the next day, as I was informed, and continued more or less every day till I saw her, which was on the 14th of the month.

"As she had discharged from her stomach every thing she ate or drank, from the time of her first vomiting till this, she did not suffer so much from the ischury, which still continued, as she did before the first evacuation. I prevailed upon her to let me pass the catheter into the bladder, whence I drew about three pints of urine, clear, but high coloured; her strength was very much exhausted, and she felt great heat and soreness throughout the abdominal viscera.

"A variety of medicines were prescribed, and every method pursued that could be thought of to allay the extreme irritability of the stomach, and restore the natural action of the bladder. For ten weeks successively she was incapable of retaining in her stomach either food or medicine, except opium; this was her only solace by day as well as night.

"From this time to December, she continued with very little abatement of her distress, or alteration of her circumstances. And as she could lie in no other position, she was constantly supported in an armed chair, in a reclined posture, with pillows under her hips.

"Whenever I omitted to draw off her water once in thirty or thirty-six hours at farthest, she never failed to vomit it up. To ascertain so extraordinary a fact beyond the possibility of a mistake

on my part, or a deception on hers, I often visited her about the time I knew she must vomit, if the catheter was not introduced; and I examined her bladder, found it full, hard and tender; and sat by her till the vomiting recurred, saved the water that she brought up this way, and compared it with what I drew off, and found it the same in every respect.

“ During the time her urine came off by vomiting, she suffered extreme anxiety, and always complained of great heat, smarting, extreme thirst, and a sensation of inversion or turning up of something (*running as she expressed it*) that appeared to tear her bowels.

“ As the affair had become so tedious, and my business was such, that it was not in my power to attend upon her as often as her case required, I instructed the young gentlemen who lived with me, in the use of the catheter, and they waited on her in my absence, as often as they could conveniently.

“ In the month of January, 1787, from some cause unknown, she could not be relieved with the instrument, nor could she vomit up her urine for several days; when it passed off by the navel for three days successively, after which the catheter was used with the same effect as before.

“ From this time to the August following, there was so great a sameness in her complaints, that nothing occurred worth noticing. About the beginning of this month a brick-coloured gravel began to pass off through the catheter, and soon became so large and plentiful, that neither urine nor gravel could be completely evacuated by the instrument in its usual form. I had one made of a different construction, open at two of its sides for about half an inch, which answered my wishes.

“ She continued to discharge gravel this way, whenever her urine was drawn off, till the beginning of November, at which time she felt more distress than usual whenever her urine came off by vomiting, and she soon observed a gritty substance in her mouth. When I was informed of this new phenomenon, I requested her to save the urine for my inspection, the next time she vomited. I compared this with what I drew off, and found it contained the same kind of gravel as that which passed the catheter. I procured and saved several drachms of this gravel that came from her both by the instrument and by vomiting, and could observe no difference either in the colour or consistence of them.

“ From this period to the summer 1788, her complaints continued much the same. When her water was not drawn off, she always brought it up by vomiting, commonly attended with great pain in the head.

“ During this summer she twice passed a small quantity of urine through the urethra, in consequence of being frightened, once by

thunder, and the second time by the falling of a window in her room. This served only to raise her spirits for a few days, with the expectation of her urine returning through its natural channel. Her case however continued the same in that respect, and became every day more complicated in others. The *hypogastrium* became more tumid and tender, and her bladder appeared very much thickened, and extremely sore, even after it was evacuated. Add to this, the apparent inequality of the surface of the bladder was so great, and the tumor shifting sometimes towards the right, and at others to the left *inguen*, according as her body was moved, that I began strongly to suspect a stone.

“Through the month of September her urine could very rarely be drawn off: for upon the introduction of the catheter, a spasm seized the urethra, and neck of the bladder; and though the instrument appeared to pass high up into the fundus of the bladder, not more than a jill could be drawn, before it stopped entirely, with a sensation of something falling down against its cervix, which she was very confident was a stone.

“In the course of this month she vomited more sand than she had at any time before, and failed in strength and spirits so fast, that I was apprehensive she would not live the month out. Her *urethra*, bladder, and external genital parts were so extremely sore, that for some time it prevented my searching her for the stone, in the manner I intended.

“About the beginning of October I was able to introduce the sound, when I readily met with a stone, which appeared of a small size, and rather softer than *urinary calculi* commonly are. I repeated the examination a number of times, till I was perfectly satisfied that this was the case.

“She would readily have undergone the operation of lithotomy; but I told her no lasting advantage could be expected from it, while her viscera continued in such a diseased condition. During this month her urine could be drawn off but part of the time, and she vomited it up for more than a week, without the possibility of any relief from the instrument, notwithstanding it was kept in the bladder, sometimes, during the whole night. She had, at different seasons of the year, several ill-conditioned small abscesses in her arm-pits, and on other parts of her body, but they did not appear to benefit her general complaints.

“She also voided, at different times by vomiting, after she had thrown up all her urine, a bloody pus, of a very disagreeable appearance and *coppery* taste.

“As her case was so very uncommon, I, at different periods of it, requested the advice of most of the faculty of this town. She was visited by the late Dr. Fletcher, Doctors Olyphant and Mason; the last of these gentlemen, both with me, and in my absence, repeatedly relieved her by the catheter, and saw her vomit up both

urine and gravel. She was also visited transiently by Dr. Waterhouse of Cambridge, and several other physicians of eminence who lived out of the State.

“ During the remainder of the autumn, and principal part of the winter ensuing, the same troublesome sensation of the falling down of a stone in the bladder upon the use of the catheter continued, and induced the most excruciating pain and misery imaginable. She was put into different positions when the catheter was introduced, and I gave the instrument various directions in the bladder, sometimes with success, at others without. Her bowels were for the most part much less constipated than could have been expected, considering the frequency of vomiting, her supine situation, and the little nourishment she was able to retain upon her stomach. And during the whole of her disease, till within three months of her death, the catamenia were irregular. Sometimes they appeared every fortnight, and at others she passed the regular period for that evacuation two or three months without having any: but it did not appear to me that her disease was much influenced by either.

“ She had, by turns, a dry cough, with the return of the old pain in the side; but she never expectorated, *by coughing any kind of purulent matter*, that could induce me to suppose her lungs were considerably diseased. The bloody matter that she brought up always came by vomiting, preceded by a more than ordinarily morbid irritability of the stomach, soreness, and extreme anxiety.

“ Early in the spring, 1789, her urine began to pass *per anum*, loaded with the same kind of gravel, that had come away by the catheter. This gave her some respite, with respect to her vomiting, though she continued to throw up more or less urine, as well as gravel, that way, every week.

“ This new course of her water gave her a very troublesome *tenesmus*. But the stone in the bladder, as well as the pain and disagreeableness arising from the sensation of its descent, became daily less fatiguing. Her strength and spirits decayed fast, and the fever that she had before continually laboured under, grew more completely *hectical*.

“ After the 13th of May her bladder never became so much distended with urine as it had been before, and both this and the gravel now generally passed her once in twenty-four hours, either by vomiting or purging. She however introduced the catheter herself, and sometimes drew off her urine to the quantity of a gill.

“ The secretion of urine, as well as the formation of *calculi*, evidently diminished in proportion to her loss of strength, and the increase of the diarrhoea. Her menses entirely ceased. During the latter part of spring and summer she became quite paralytic at times;—the frequency of vomiting increased, and she had se-

veral convulsion fits after vomiting. She grew more and more emaciated, her convulsions returned more frequently, her fever was more putrid, she at last became lethargic: and on the 11th of August, death, which she had long and ardently wished for, put a period to a series of the most complicated and singular misery that I have ever seen since my acquaintance with disease.

"The next day after her death, I obtained leave to examine the body, when there were present Doctors Waterhouse and Mason.

"The weather being very warm, intolerable foetor proceeding from the corpse, determined the family to inter it so soon, that we had not time to make our examination so minute as we wished. —We found much less ravage in the abdominal viscera than was expected.

"*Thorax.* In this cavity there was nothing appeared unnatural, except a considerable adhesion of the right lobe of the lungs to the pleura.

"*Abdomen.* The omentum was principally wasted, but not more than is commonly the case with those who die tabid. It was however of a dark gangrenous colour pretty generally.

"*Stomach.* This appeared much changed from its natural colour, and in a gangrenous state, containing a semi-purulent matter of a foetid scent.

"*Liver and Gall-Bladder.* There were no preternatural adhesions of the former, or gall-stones in the latter, and their colour, &c. not unusual.

"*Intestines.* In these there were no ruptures, either of their muscular coats, blood vessels, or lymphatics, that we could discover. The villous coat was much destroyed, and the colour of the intestines darker than is common, except the *duodenum*, which was very much discoloured with the bile.

"*Kidneys and Ureters.* In these there was no considerable deviation from a state of soundness, they were lax or flabby, but no rupture of any of their vessels, or any calculi discoverable.

"*The Urinary Bladder.* This was in its natural situation, not the least thickened, had no sand or gravel in it, nor did it adhere preternaturally to any of the circumjacent parts; and the muscular sphincter of its neck yielded readily to the introduction of the finger from the bladder into the urethra.

"*Uterus.* In its cavity was contained about a drachm of thick darkish foetid pus; but no other appearance of disease in its body.

"*Tubæ Fallopianæ,* were larger than common, in virgins, and strung with several hydatids or vesiculæ, the size of a walnut, filled with a watry, glutinous humour.

"*Corpora Fimbriata,* had a gangrenous appearance.

"*Ovaria,* were enlarged to the size of a small hen's egg, and contained a considerable quantity of a clear, limpid fluid, immediately under the first coat."

To this singular case Mr. Senter has annexed the following remarks :

"The causes of a preternatural retention of urine," says he, "are various; the complaint of this unhappy girl was undoubtedly what SAUVAGES calls *Ischuria vesicalis paralytica*. That part of the history of this case which may appear the most surprising, is, the extraordinary outlets which nature found for the evacuation of the urine. But this may be accounted for when we advert to what Mr. Hewson and some other ingenious modern physiologists have demonstrated, that the urinary lymphatics are joined with the intestinal absorbents by numerous anastomoses. And although fluids passing from the stomach into the bladder by the urinary branches of the lymphatics, must in all probability invert the common order of their valvular mechanism, yet it is well known that this is not the only instance of such an inversion taking place in other parts of the human system, under particular circumstances and conditions of our bodies, by a retrograde motion of their contents.

"Dr. Darwin's experiments on this subject, as well as those of M. Macquire, prove not only the existence of a direct communication between the alimentary canal and urinary bladder, but shew that many substances pass from the stomach to the vesica urinaria without undergoing any considerable alteration in the nature of their peculiar properties. This vascular connection between the alimentary canal and urinary bladder being no longer problematical, it may still be thought doubtful by some, whether the urine in the bladder can possibly ascend into the stomach, though water in this viscus may descend into the other. It has not escaped the observation of Physicians in every period of the healing art, that patients labouring under an ischury have been known to pass their urine *through the pores of the skin*,* and there are some

* Mr. Senter adduces the following curious instance of this:—A fisherman," says he, "55 years old, being much fatigued with labour, even to profuse perspiration, in the month of November, and exposed in the water immediately after, was taken with a suppression of urine, for which he was directed to take some purging salts and mineral pills. I was desired to attend him, but could not till the fourth day of his disease. I found his complaint so very pressing, that after he was bled and had an anodyne oleaginous clyster without relief, I introduced the catheter, and took from him a large quantity of his blood-coloured urine, by which he was immediately made easy. The cause not being removed, his urine began to accumulate so fast, that by the next day it became troublesome. I ordered him a saline diuretic mixture, and attempted to pass a bougie into his bladder, but was foiled; I tried different sizes ineffectually. Gentle cathartic medicines with a repetition of the anodyne injections were used, but his complaint continued obstinate. On the 4th day from the commencement of this last accumulation, his fever was very high; he had much thirst, and complained of great pain in his head. I took more blood from him, which was very bulky, and continued the several medicines before in use. I tried again the bougies and catheter without effect. He was put into warm water, and after it cold water was thrown on his extremities; but not a drop of urine could be produced: upon

instances on medical record of ptyalism coming on in consequence of retained urine in the body. While writing this, I have the care of a negro girl, more than twenty years of age, who has for two years been troubled with a variety of distressing sensations, which appear to arise from polypous concretions in the heart and large blood vessels. She first complained of pain deep in the thorax, extending down the right side into the liver. Her pulse was slow, unequal, and intermitting; and upon much motion, she frequently complained of faintness, shortness of breath, and palpitation of the heart; her tongue was generally foul; she had but little appetite, and was subject to coliciveness. But till within about three months, by small bleedings, epispastics, and eccoprotics, joined to a cooling laxative diet, she was enabled to keep about the house the most of the time. For the three months last past, all these symptoms increased and induced a multiplicity of others. She at sundry times has had a paucity of urine followed by a ptyalism. These however appeared to give way to the remedies that were used, till within about six weeks past; when she was seized with a total suppression of urine, which lasted eight days, followed with a vomiting and ptyalism. During all this time, her bladder was not so much distended as to make the hypogastrium tense or tender to the touch. I however drew off about two pints of water with the catheter, which was neither high coloured nor foetid. She now seldom passes her urine oftener than once in three or four days, and then not in considerable quantities. She spits nearly three pints of a *saltish water* mixed with phlegm every twenty-four hours, vomits more or less every day a brackish pituita, and nothing passes her bowels without assistance. In her severest paroxysms of distress, she is extremely agitated with tremors, *subfultus tendinum*, vomiting and convulsions, accompanied with such a furious delirium, that the family is obliged to confine her with cords. She froths or foams at the mouth like the ancient demoniacs; and what is peculiarly singular and worthy of remarking is, in her most violent agonies, *her pulse loses entirely the intermission and*

the 5th he was more swelled; he was put in the bath again, and a variety of other means used. His brain was now evidently affected. He dozed much, an urinous sweat came out upon him plentifully. Upon the 6th he was seized with a vomiting, which continued till night, with very little intermission. His case now seemed desperate, as death appeared to be fast approaching, I let him more blood, and directed him again into the bath, with a determination, if he should not be relieved by this, to puncture the bladder without delay. While in the bath he was seized with a lipothymia, and in this condition carried to bed: his urine now began to flow, though insensibly to himself. He sweat much; continued to have fainting fits, and vomited at intervals through the night. By the morning the spasm was so far overcome in the neck of the bladder, that he was out of pain; though not freed from all his urine. It however continued to flow, and his bladder slowly recovered its expulsive power, till he was entirely well."

inequality that always occur at the intervals of her greatest tranquillity. It is however generally quick and small. She has very frequently a *scotomia*, pain in her head and eyes, and indeed in every part of her body, but more especially in the back and lumbar regions; and in proportion to the diminished secretion of urine, her vomiting, ptyalism, and universal distress, are increased. She has frequent returns of a distension, foreness and pulsation in the external iliac artery of the right side, which extends down the thigh. Whether this ptyalism was occasioned by a diminished secretion of urine in the kidneys, or from the retention of it after getting in the bladder, is very uncertain. The pain in her back and loins has been very constant for many weeks, and she does not appear to suffer so much from retained urine in the bladder as might be expected, considering that she seldom voids it in the natural way. It however does not admit of a doubt that the discharges of her stomach and fauces are *urinous*.

“Whether in these cases, the urine passes back into the system by percolation, or inverts the course of circulation in the urinary lymphatics, may be matter of doubt with many, though I am decidedly of the latter opinion, from what I have observed in more instances than one of this kind. In the above-related case, I never could discover the least smell of urine in her sweat or perspiration.”

Mr. Senter concludes with noticing one more circumstance in the case of the first girl, which tends strongly to evince the extraordinary power of the absorbing vessels of her *mouth*, *œsophagus*, and *stomach*. It appeared, that she was supported for ten weeks at a time in no other way than by absorption, having never kept any nourishment on her stomach for more than ten or fifteen minutes after eating, during that period; but a vomiting ensued, and continued till her stomach had entirely evacuated itself.

A case of *ischuria renalis* occurred at Gloucester, in which, after various remedies had failed to restore the kidneys to their proper functions, a cure was apparently obtained, by the application of a *poultice of onions* to the navel,

(2.) The *ischuria ureterica* is also a rare disease, unless the obstruction proceeds from a stone or clot of blood stopping up the passage. Gravel or stones, indeed, are very frequently formed in the kidneys; and, by falling into the ureters, occasion an ischuria, with violent pain, and symptoms more or less urgent in proportion to the size and shape of the stones. Sometimes it is attended with coldness of the extremities, nausea, vomiting, and spastic constriction of the præcordia, a difficulty of making water, constipation of the belly, difficulty of breathing, stupor of the thigh, retraction of the testicle to the *os pubis*, inquietude, loss of strength, syncope, and convulsion fits. When the violent pain has continued for several days and nights without intermission,

and has brought the patient exceeding low, and the suppression of urine is complete, with coldness of the extremities and convulsions of the tendons, death is at hand. Nor is it a good sign when the stone continues long in the ureter; for then the appetite decays, a nausea and retching to vomit supervene, and the patient is consumed with a hectic heat. Sometimes the pain is attended with an inflammation of the stomach and intestines; and sometimes the disease ends in a dropsy of the breast, or lethargy, which soon carry off the patient.

The *indications of cure* are, to exclude the stone as easily as possible, and prevent the forming of others. If the patient be of a sanguineous temperament, Sydenham recommends to take away ten ounces of blood from the affected side; and then to give the patient a gallon of posset-drink in which two ounces of marsh-mallow roots have been boiled, injecting at the same time an emollient clyster (No. 105.) After the posset-drink has been vomited up, and the clyster returned, give a pretty large dose of an opiate. But if the patient be old or weak, or subject to nervous affections, bleeding may be omitted, especially if his urine at the beginning of the fit be coffee-coloured, and mixed with gravel; but as to other things, the cure is the same.

Huxham greatly recommends an *emollient bath* prepared of a decoction of marshmallow root, linseed, scænegreek seed, and flowers of chamomile, to which may be added some white poppy seeds. By the use of this bath, he says, he has seen the most cruel fit of the gravel suddenly ended, when neither copious bleeding nor opiates had the least effect. Mild diuretics are also of service. (Vide Form. No. 158 and No. 396.) Hoffman recommends *dulcified spirit of nitre* as proper to relax the spastic stricture. It is to be taken with suitable distilled waters and syrup of poppies; or in breth, with a few spoonfuls of oil of sweet almonds. Turpentine clysters are also accounted very serviceable.

Dr. Saunders gives the following formula:

(No. 428.) ℞ Terebinth. vulg. ℥ss.

Vitell. ovi unius,

Decoct. pro enema ℥viij. Fiat Enema.

The *sal diureticus*, or *acetated kali*, is also much esteemed by some, when taken along with an opiate. But when the stone is too big to pass, Arbuthnot recommends a cool and diluent diet to hinder the further growth of it. Whey, infusion of linseed (No. 223.), decoction of marshmallows, and gently resolving diuretics, (No. 158.) or (No. 205.), are also proper. To put a stop to the vomiting, *tinct. benzoes comp.* may be used with success when almost every other means have failed.

The other species of Ischuria are considered under SURGERY. See vol. IV.

GENUS CXXIV. DYSURIA.

DIFFICULTY of DISCHARGING URINE.

Dysuria, *Sauv.* gen. 265. *Lin.* 57. *Vog.* 164. *Sag.* 213.
Stranguria auctorum.

A difficulty of making water may arise from many different causes; as from some acrid matter in the blood, *cantharides*, for instance: and hence a strangury very often succeeds the application of blisters. In many cases it arises from a compression of some of the neighbouring parts; of the uterus, for instance, in a state of pregnancy. Or it may arise from a spasmodic affection of the bladder, or rather its sphincter; or from an inflammation of these parts, or others near them. Hence the disease is distinguished into so many species, the cure of which depends upon the remedies indicated by their different causes. See this subject in vol. IV.

But the most common as well as the most dangerous species is that arising from a calculous concretion, or

STONE in the BLADDER.

Dysuria calculosa, *Sauv.* sp. 12.

The signs of a stone in the bladder are, pain, especially about the sphincter; and bloody urine, in consequence of riding or being jolted in a carriage; a sense of weight in the *perinæum*; an itchiness of the *glans penis*; slimy sediment in the urine; and frequent stoppages in making water; a *tenesmus* also comes on while the urine is discharged: but the most certain sign is, when the stone is felt by the finger introduced into the anus, or by the catheter.

1. *Causes, &c.*] It is not easy to say what the particular causes are that occasion the apparently earthy particles of the fluids to run together, and form those calculous concretions which are found in different parts of the body, and especially in the organs for straining off and discharging the urine.

The gout and stone are generally supposed to have some affinity, because gouty people are for the most part afflicted with the gravel. But, perhaps, this is in part owing to their long confinement, and to the lying on the back, which people who labour under the gout are often obliged to submit to; since the want of exercise, and this posture, will naturally favour the stagnation of gross matters in the kidneys; besides, there are many instances of

people severely afflicted with the stone for the greatest part of a long life, who have never had the least attack of the gout.

There is, however, good reason for believing, that some further connection takes place between the two diseases; and when treating of the gout, we have already given some account of the opinion of an ingenious anonymous author, who has endeavoured to prove, that both the one and the other depend on a peculiar acid, the concreting or lithic acid, which is always present in blood; and which may be precipitated from thence by various causes, such as the introduction of other acids, or the like. When thus precipitated, he supposes it to produce the whole phenomena of both diseases. The objections we formerly stated to his theory of gout do not equally militate against that of calculus; and it is at least certain, from the best chemical analysis, that what are commonly called *urinary calculi*, and have been considered as entirely an earthy matter, consist principally of acid in a solid state united only with a small proportion of earth or mucus. We may, therefore, whether this hypothesis be altogether well founded or not, justly view lithiasis as depending on the separation of an acid from the blood.

Whatever may be the particular cause of the disposition to *lithiasis*, the kidneys appear to be the most likely places for particles to concrete or run together, because of the great quantity of blood which passes through the renal arteries, and which comes immediately from the heart, fraught with various newly-received matters, that have not undergone much of the action of the vessels, and therefore cannot as yet be supposed to be thoroughly assimilated.

Anatomists who have carefully examined the kidneys in the human subject, particularly M. Bertin, inform us, that there are two sets of *tubuli uriniferi*; the one continued directly from the extremities of the renal artery, and the other springing from that vesicular texture which is conspicuous in the kidneys.

It is in this vesicular part of the kidney that we presume the particles of the concreting matter first stagnate and coalesce: for it is hardly to be supposed, that such solid matters could be allowed to stop in the extremities of the renal arteries, since the blood, and the urine separated from it, must flow through these vessels with great degrees of force and velocity; but in the intermediate vesiculæ the particles may lie, and there attracting each other, soon come to acquire sensible degrees of magnitude, and thus become sand or gravel. As long as this sand or gravel formed in the vesicular part of the kidney lies quiet, there will be no pain or uneasiness, until the concretions become large enough to press either on the adjoining *tubuli*, or on the blood-vessels; then a sense of weight, and a kind of obtuse pain in the loins, will be felt. But when the small pieces of concreting matter shall be dislodged and

washed off by the force of the circulating fluids, or loosened by some spasmodic action of the moving fibres in these parts, they will in their passage create pain, raise different degrees of inflammation, or perhaps lacerate some blood-vessels, and cause bloody urine. When these little concretions happen to be detained in the pelvis of the kidney, or any other place where a flow of urine continually passes, they soon increase in size, and become calculi, from the constant accession of particles, which are attracted by the original bit of sand, which thus becomes the nucleus of a stone.

It is an opinion which Hippocrates first advanced, and which has been most universally adopted by his followers, and has remained till lately uncontroversed, that the stone and gravel are generated by the use of hard water. And from this quality, which the waters of certain springs possess, of depositing a large earthy sediment, either in the aqueducts through which they are conveyed, or in the vessels in which they are boiled or preserved, it was conjectured, that in passing through the kidneys, and especially whilst retained in the bladder, they would let fall their grosser particles, which by the continued apposition of fresh matter, connected by the animal gluten, and compacted by the muscular action of that organ, would in time form a calculus sufficiently large to produce a train of the most excruciating symptoms. And this reasoning *à priori* has been supposed to be confirmed by facts and experience; for, not to mention the authority of Hippocrates, Dr. Lister has observed, that the inhabitants of Paris are peculiarly subject to the stone in the bladder. Nicholas de Blegny has related the history of one who was dissected at Paris, in whom the pylorus, a great part of the duodenum, and the stomach itself, were so incrustated with a stony matter, to the thickness of a finger's breadth. And it is well known, that the water of the river Seine, with which that city is supplied, is so impregnated with calcareous matter, as to incrustate, and in a short time to choke up, the pipes through which it runs. But on the other hand it is objected, that the human calculus is of animal origin, and by chemical analysis appears to bear very little analogy to the stony concretions of water: and though it be allowed that more persons are cut for the stone in the hospitals at Paris than in most other places, yet upon enquiry it is found, that many of those patients come from different provinces, and from towns and villages far distant from the Seine.

Dr. Percival conjectures, that though this disease may chiefly depend upon a peculiar disposition to concrete in the animal fluids, which in many instances is hereditary, and in no instance can with certainty be imputed to any particular cause; yet hard water is at least negatively favourable to this diathesis, by having no tendency to diminish it. The urine of the most healthy person is

generally loaded with an apparently terreous matter, capable in favourable circumstances of forming a calculus; as is evident from the thick crust which it deposits on the sides of the vessels in which it is contained. And it seems as if nature intended by this excretion to discharge all the superfluous salts of the blood, together with those earthy particles, which are either derived from our aliment, and fine enough to pass through the lacteals, though insuperable by the powers of circulation, or which arise from the abrasion of the solids, or from the dissolution of the red globular part of our fluids. Now water, whether used as nature presents us with it, or mixed with wine, or taken under the form of beer or ale, is the great diluter, vehicle, and menstruum, both of our food, and of the saline, earthy, and excrementitious parts of the animal juices. And it is more or less adapted to the performance of these offices, in proportion to its degree of purity. For it must appear evident to the most ordinary understanding, that a menstruum already loaded, and perhaps saturated with different contents, cannot act so powerfully as one which is free from all sensible impregnation. Nor is this reasoning founded upon theory alone; for it is observed, that Malvern water, which issues from a spring in Worcestershire remarkable for its uncommon purity, has the property of dissolving the little fabulous stones which are often voided in nephritic complaints. And the solution too, which is a proof of its being complete, is perfectly colourless. Hence this water is drunk with great advantage in disorders of the urinary passages. And during the use of it, the patient's urine is generally limpid, and seldom deposits any sandy sediment. Yet notwithstanding this appearance of transparency, it is certainly at such times loaded with impurities, which are so diluted and dissolved as not to be visible: for it is attended with a strong and fetid smell, exactly resembling that of asparagus. Hoffman mentions a pure, light, simple water in the principality of Henneberg, in Germany, which is remarkable for its efficacy in the stone and gravel; and a water of similar virtues was discovered not many years ago in the black forest, near Osterod, which, upon examination, did not afford a single grain of mineral water. Indeed it is worthy of observation, that most of the springs which were formerly held in great esteem, and were called *holy wells*, are very pure, and yield little or no sediment.

Dr. Percival informs us that a gentleman of Manchester, who had been long subject to nephritic complaints, and often voided small stones, was advised to refrain from his own pump-water, which is uncommonly hard, and to drink constantly the soft water of a neighbouring spring; and that this change alone, without the use of any medicine, has rendered the returns of his disorder much less frequent and painful. A lady also, much affected with the gravel, was induced, by the perusal of the first edition of Dr. Per-

cival's essay, to try the effect of soft water; and by the constant use of it remained two years entirely free from her disorder.

In nephritic cases, distilled water would be an excellent substitute for Malvern water, as the following experiment evinces:

Two fragments of the same calculus, nearly of equal weight, were immersed, the one in three ounces of distilled water, the other in three ounces of hard pump water. The phials were hung up close together in a kitchen chimney, at a convenient distance from the fire: after fourteen days' maceration, the calculi were taken out and carefully dried by a very gentle heat. The former, *viz.* that which had been immersed in distilled water was diminished in its weight a grain and a half; the latter had lost only half a grain.

It is the passage of these calculi from the kidneys down into the bladder which occasions the pain, vomiting, and other symptoms, that constitute what is usually termed a *fit of the gravel* or *stone*.

When an inflammation is actually raised, the disease is known by the name of *nephritis*, and has been already treated of.

As soon as the stone passes through the ureter, and falls into the bladder, the pain and other nephritic symptoms cease; and every thing will remain quiet, either till the stone be carried into the urethra, or until it has remained long enough in the bladder to acquire weight sufficient to create new distress.

If a stone happens to be smooth and of a roundish form, it may lie in the bladder and acquire considerable bulk before it can be perceived by the patient; but when it is angular, or has a rugged surface, even though it may be small in size, yet it seldom fails to give pain, and occasion bloody urine, or the discharge of a slimy fluid, with tenesmus, and difficulty in making water.

There have been various attempts made to dissolve the stone; and there are certainly some articles which have this effect when applied to it out of the body; but the almost total impossibility of getting these conveyed to the kidneys, renders it extremely doubtful whether a solvent ever will be discovered. Of all the articles employed for this purpose, no one, perhaps, has had greater reputation than fixed alkaline salt in its caustic state, particularly under the form of the *aqua lixivie caustica*: but this being of a very acrid nature, it requires to be well sheathed by means of some gelatinous or mucilaginous vehicle. Veal-broth is as convenient as any for this purpose; and accordingly it is used by those who make a secret of the caustic alkali as a solvent of calculus.

Mr. Blackrie, who has taken much pains in this enquiry, has proved very satisfactorily, that Chittick's nostrum was no other than *soap-lees* given in veal-broth, which the patients sent every day to the doctor, who returned it mixed up with the medicine, in a close vessel secured by a lock.

It is not every case, however, that either requires or will bear a course of the caustic alkali. Some calculi are of that soft and friable nature, that they will dissolve even in common water; and there are cases wherein it appears that the constant use of some very simple decoction or infusion of an insignificant vegetable, has brought away large quantities of earthy matter, in flakes which apparently have been united together in layers to form a stone. Dr. Macbride assures us, that a decoction of raw coffee, only thirty berries in a quart of water, boiled till it acquired a deep greenish colour, taken morning and evening to the quantity of eight or ten ounces, with ten drops of sweet spirit of nitre, had the powerful effect of bringing away, in the course of about two months, as much earthy matter in flakes as filled a large tea-cup. The patient was far advanced in years; and, before he began this decoction, had been reduced to great extremities by the continuance of pain and other distressing symptoms: he was purged occasionally with *oleum ricini*.

Latterly the alkali in a mild state, and in a different form, has been much used by many calculous patients and with great advantage, under the form of what is called *alkaline aerated water*. For the introduction of this medicine, or at least for its extensive use, we are chiefly indebted to that ingenious physician, Dr. William Falconer, of Bath. He has also published an account of the *Aqua Mephitica Alkalina*, or solution of fixed alkaline salt, saturated with fixable air, in calculous disorders; which contains a number of cases strongly supporting the benefit to be derived from it. But whether the good effects obtained in these instances are to be explained from its operating as a solvent of calculus, seems to be extremely doubtful. There are indeed cases in Dr. Falconer's treatise, of patients in whom, after using it for a considerable time, no stone could be detected by sounding, although it had been discovered in that way before they began the employment of it. But in many instances the relief has been so sudden, that it may be concluded, that, notwithstanding the ease obtained, the calculus still remained. In such cases, it probably removed from the urine that quality by which it gives to the calculus fresh accretions, producing that roughness of its surface by which it is chiefly capable of acting as a stimulus. For the distressing symptoms resulting from stone, are more immediately to be attributed to the inflammatory and spasmodic affections which it induces; and when its surface is least capable of operating as a stimulus, these of course will be least considerable. It is therefore not improbable, that this remedy produces relief, by preventing fresh additions being made to the calculus.

An infusion of the seeds of *daucus sylvestris* sweetened with honey, is another simple and much celebrated remedy; it has been found to give considerable ease in cases where the stomach could

not bear any thing of an acrid nature: the leaves of the *uva ursi* were strongly recommended by the late very celebrated De Haen; and, whatever its way of operating may be, seems to have been productive of good effects in some instances. There is no reason to believe that it has any influence in dissolving calculus: and indeed it seems to be chiefly useful in those instances where ulcerations take place in the urinary passages. When it is thought requisite to make trial of this remedy it may be given in the way directed by Dr. Saunders:

(No. 429.) *R*. Uvæ ursi $\text{z}ij$.

Aq. fervent. lib. j. Macera et cola.

Infusi colati sumantur unciaæ duæ vel tres, ter quotidie.

In the Edinburgh Medical Commentaries, vol. iii. we have an account of a method used by the inhabitants of Arabia Petræa for curing the stone, to which they are very much subject, and which the author (an English gentleman of experience and candour) affirms he has seen frequently performed with never-failing success. By means of a catheter they inject into the bladder a weak ley of alkali with the purified fat of a sheep's tail, and a proper quantity of opium all put together. Their catheters are made of gold; and in performing the operation they introduce them quite into the bladder; so that the composition is safely conveyed to the stone without hurting any other part. But when a stone is situated in the kidney, they have no method of cure.

If this method of curing by injection could be safely practised, it would, no doubt, greatly have the advantage over that of taking alkalies by the mouth, where the medicine is not only much weakened, but the constitution of the patient runs the risk of being greatly injured. But from some experiments mentioned in the second volume of the Medical Transactions, it appears, that the human calculi are very different from one another in their natures. Some, for instance, will easily yield to an alkaline menstruum, and very little to an acid; while others are found to resist the alkali, and yield to the acid: and some are of such a compact nature, that they yield neither to acids nor alkalies. An attention, however, to the fragments, scales, or films, which the stone may cast off, and also to the contents and sediment of the urine, may lead to the discovery of what solvent is proper, or whether the stone can be dissolved by any. To use either alkalies or acids improperly may be hurtful; though there may be such kinds of calculi as demand the alternate use of acids and alkalies; nay there may be found calculi of opposite kinds in the same subject.

In such cases as will not allow us to think of dissolving the stony concretions, and where the only scheme is to palliate and procure ease from time to time, little more can be done than to keep the bowels open occasionally by some gentle cathartic (No. 221.), and wash off as much of the loose gravelly matter and slime as can be

removed by such mild diuretic infusions and decoctions (No. 120. or 158.) as shall be found to pass freely and sit well on the stomach. Persons afflicted with the stone should be careful in respect of their diet, and studiously avoid all heavy and flatulent food, as well as high fauces that are apt to turn rancid. For the same reason, butter and acids are to be shunned; for these often create heart-burning, and every thing that offends the stomach raises the nephritic pain; such is the sympathy that obtains between the digestive and the uropoietic organs.

There have been surgeons bold enough to entertain an idea of cutting even into the kidney, in order to extract a stone: this, however, except in cases where an abscess has been formed, and nature points out the way, is merely chimerical. But cutting into the bladder for the same purpose, is an ancient and well-known operation, and often crowned with success. A description, however, of this operation belongs to the article SURGERY (vol. IV.), to which we refer; and here shall only make this remark, that a surgeon should never begin this operation, until he and his assistants are perfectly satisfied, from actually feeling the stone, that there is one in the bladder; because it has sometimes happened, that when the incision has been made, no stone could be found: and the patient having died in consequence of the operation, and the body being opened, it has appeared that the symptoms which occasioned the belief of a stone in the bladder arose from some other cause.

When a DYSURIA proceeds from any acrimonious matter thrown into the blood, it may be readily cured by bleeding, emollient clysters, cooling and diluting drinks with gum-arabic or gum-tragacanth, linseed tea, or the warm bath. When it arises from inflammation of the bladder or parts adjoining to it, we are to regard it only as a symptomatic affection; and the remedies used to remove the primary disease will also remove the dysuria. Sometimes it may arise from an ulcer of the bladder; in which case it is generally incurable: a mild nutritious diet, and occasional opiates, will, however, protract the patient's life.

GENUS CXXV. DYSPERMATISMUS.

Difficult EMISSION of SEMEN.

Dyspermatismus, *Sauv.* gen. 260.

Sterilitas, *Lin.* 171. *Sag.* 211.

Agnesia, *Vog.* 283.

This impediment proceeds generally from obstructions in the urethra, either by tumors in itself, or in the cavernous bodies of

the penis; in which case the treatment is the same as in the ichuria urethralis; sometimes it is owing to a kind of epileptic fit which seizes the man in the venereal act; and sometimes the semen, when ejected from the proper receptacles, is again absorbed by them, or flows into the bladder, and is expelled along with the urine. The last case is very difficult, or indeed impossible to cure: as proceeding from scirrhi, or other indissoluble tumors of the verumontanum, or the neighbouring parts, requiring salivation, and the use of hemlock internally, and externally in the form of a bath. In some, it proceeds merely from too violent an erection: in which case opiates and emollient and relaxing medicines will be of service; and we have an example of a cure performed by means of these in the first volume of the Edinburgh Medical Essays.

GENUS CXXVI. AMENHORRHŒA.

SUPPRESSION of the *Menses*.

Amenorrhœa, *Vog.* 130.

Dysmenorrhœa, *Lin.* 168. *Sag.* 218.

This, with some other symptoms, as dyspepsia, yellowish or greenish colour of the skin, unusual appetites, &c. constitutes the CHOLOROSIS already treated of, and which seldom or never appears without a suppression of the menses. In Dr. Home's Clinical Experiments we find the virtues of several emmenagogues set forth in the following manner. Chalybeates seldom or never succeeded: they were always found more useful in diminishing the evacuation when too violent, than in restoring it when deficient. The tincture of black hellebore proved successful only in one of nine or ten cases, though given to the length of four tea-spoonfuls a-day, which is double the quantity recommended by Dr. Mead. Compression of the crural artery, recommended by Dr. Hamilton, in the Physical and Literary Essays, vol. ii. proved successful only in one of six cases. From the effects produced by this compression, it has the strongest appearance of loading the uterus with blood; from the sensations of the patient it produces the same effects as the approach of the menses, and has every appearance in its favour: yet does not succeed. Dr. Home supposes that the uterus is more frequently in too plethoric and inflammatory a state; in which case, this remedy will do more hurt than in a state of inanition; however, he owns, that in the case in which it did succeed, the patient was plethoric and inflammatory. Venæsection is recommended as an excellent remedy; the doctor gives three instances of its success, and says he could give many more. It acts by removing the plethoric state of the uterus, relaxing the

fibres, and giving the vessels full play; so that their action overcomes all resistance, and the evacuation takes place. It is of no great moment from whence the blood is taken: the saphænic vein will perhaps empty the uterus most; but it is difficult to get the proper quantity from it, and the quantity of the discharge cannot be so well measured. The powder of *savine* is a most powerful remedy; and proved successful in three cases out of four in which it was tried. It was given to the quantity of half a drachm twice a-day. It is a strong topical stimulus, and seems improper in plethoric habits. *Madder-root*, according to Dr. Home, is a very powerful medicine in this disease; and proved successful in fourteen out of nineteen cases in which it was tried, being sometimes exhibited in the quantity of two scruples, or a drachm, four times a-day. It has scarce any sensible effects; never quickens the pulse, or excites inflammatory symptoms: on the contrary, the heat, thirst, and other complaints abate; and sometimes these symptoms are removed, though the disease be not cured; but when it succeeds, the menses appear from the third to the twelfth day.—For other methods of curing the *amenorrhœa*, see CHLOROSIS.

WE have now considered all those diseases enumerated in Dr. Cullen's Nosology, whose cure is to be attempted chiefly by internal medicines. The other genera either require particular manual operations, or a very considerable use of external applications; and therefore properly fall under the article SURGERY. To this, therefore, we shall refer the genera which rank under the three last orders of this class of locales, viz. the *tumores*, *ectopiæ*, and *dialyses*; and we shall now proceed to the consideration of some important affections which Dr. Cullen has not placed in his system.

CEPHALALGIA; *the HEAD-ACH.*

CEPHALALGIA SYMPTOMATICA.

Description.] The head-ach is symptomatic of very many diseases, but is rarely an original disease itself. Dr. Home acquaints us that his report-books only furnish four instances of it; and of these four, three were women. The disease proved fatal to the man; and, after death, a considerable effusion of blood was found on the brain, together with some hydatids, and water in the ventricles.

Causes.] Head-achs appear frequently to be occasioned by effusions of blood or serum; as well as by ulcers, and abscesses of the brain, dura and pia mater. Accretions and ossifications of different parts of the dura mater, falx, and brain, are also frequently discovered. An ossification of the falx, however, does

not always produce head-ach : for Dr. Home mentions a patient who had the falx ossified without head-ach ; but he had been observed to be very furious when drunk. Congestions of blood in the vessels of the brain are also discovered, from dissections, to be a frequent cause of the head-ach ; and nervous irritation alone will frequently produce it, as we see in the *clavus hystericus*.

Cure.] In the cure of this disease we have little or no power over ossifications, effusions, or ulcerations ; and hence the head-ach is frequently incurable. In congestions, and nervous affections, medicines may indeed be of some service. Congestion may be relieved by an evacuation of blood, either general or topical ; as venæsection, cupping, or leeches : by errhines (No. 244.) ; which, however, Dr. Home thinks are little to be depended upon : by topical evacuations near the head, by blisters, issues, or setons ; by purgatives (No. 144.), or (No. 146.) ; or by determining the fluids to other parts, by rubefacients (No. 62.) applied to the temples, pediluvia, &c.

Nervous irritations may be diminished—

(1) By a great quantity of cold water drank every morning. This is recommended by Hoffman, and will wash off all acrid particles from the stomach, while the cold strengthens and diminishes the sensibility of the part. This remedy was tried for a considerable time in one of Dr. Home's patients without any effect.

(2) Nervous and tonic medicines ; as the bark, valerian, &c. (Vide Form. No. 247, and 248.). These were tried in two of Dr. Home's patients, but also without success. In a third the valerian succeeded.

(3) By cold water applied to the head, immersion, or the shower-bath.

(4) Cephalics ; as lavender, rosemary, &c. In slight cases, the smell of *eau de luce*, or any strong volatile alkali, will generally prove a cure.

Dr. Dwight declares, that ample experience has established the superiority of the *malic acid*, or *cyder*, in the sick head-ach, over every other remedy ; and he points out a mode of cure, equally remarkable for simplicity and efficacy. For this purpose, cyder must be well gone through the first fermentative process, and no further. It ought to be free from all taste of the cask, and all other impurities. A quantity of it, from half a gill to half a pint, should be drank on an empty stomach, in the morning, from five to fifteen minutes before breakfast.

The efficacy of this liquor in the cure of the sick head-ach, leads Dr. Dwight to the mention of its success in the cure, or rather prevention, of another disease, which he supposes to depend on the same cause, the *bilious colic*. That the sick head-ach, and this species of colic, depend on the same cause, differently applied,

he infers, 1st, from their affecting persons of the same temperament, the *bilious*; 2d, from their both observing similar periodical returns; 3d, from the circumstance of persons who, in the course of their lives, have been subject to both complaints for years, have uniformly experienced an exemption from one, during the prevalence of the other, alternately; and 4th, from the efficacy of cyder in the cure of colic, as well as head-ach. "The evidence of its efficacy," continues Doctor Dwight, is this: The cyder has been drunk by persons for months together, with entire relief from the colic, who, before they began with the remedy, were subject to paroxysms of it every few weeks. After several months had expired, the cyder was laid aside, and the colic returned with as great frequency and severity as before. The remedy was resumed, and the colic again disappeared."

From our own experience we should have far greater reliance on pulverized charcoal, or carbonic acid gas, conveyed into the stomach in the sick head-ach, or on opium, or a strong infusion of coffee taken at the time of the attack.

For distinguishing the *rheumatic* head-ach from that which arises from crudities in the stomach, Dr. Dürr points out the following diagnostics: 1. The first remits sometimes so much of its vehemence, that the patient remains free from it for several hours, whereas the other kind of head-ach continues with equal violence. 2. On moving the head the patient feels greater pains in the rheumatic head-ach. 3. This kind of head-ach is increased by cold, and the patients are therefore obliged to cover the head. 4. As soon as pains come on in other parts of the body, it begins to abate, and increases again when those go off. 5. The least motion of the head excites that head-ach again, after its having previously abated. 6. The rheumatic head-ach is limited to one part of the head, whereas, that arising immediately from the stomach affects the whole head, or, at least, the fore and back part of it.

A case of head-ach, attended with most uncommon symptoms, is related by Mr. Henry, of Manchester, in the *Memoirs of the Medical Society of London*. He observes, that the means by which Nature sometimes relieves herself from any noxious matter, and places it out of the course of the circulation, are often altogether inexplicable. It is however curious to trace her steps, as far as our limited faculties permit, and to mark the efforts she makes; as such observations may at least teach us that *she* may successfully exert herself, where art proves vain. Mr. Henry relates this extraordinary case in the following words:

"Mr. Nathan Sandford, of Burnage, near Manchester, of a thin habit of body, subject to an habitual cough from his infancy, and to glandular tumors of his neck, which were dispersed without suppuration, had, in other respects, enjoyed a tolerable share of health, till the month of February, 1759. He was then about

twenty-four years of age, and, having ridden late at night on a journey, he had the misfortune to lie in a damp bed at Fenny-Stratford. Towards morning he fell into a profuse sweat, and in that situation imprudently got up, and pursued his journey, without changing his linen. In a few hours he became extremely hoarse, and, as the day advanced, a severe fever and *peripneumony* seized him. With difficulty he arrived at Thame in Oxfordshire; where, having received every medical assistance, which the skill of that excellent physician, the late Dr. Lewis, of Oxford, could afford him, a critical eruption, of the erysipelatous kind, in both legs, attended with considerable swelling, removed his fever and dyspnœa; and as soon as his strength was sufficiently restored, he returned home, and recovered his usual state of health.

“ In November following, having occasion to travel into the same country again, he was attacked one day with a violent vomiting, which was succeeded by an erysipelatous tumor of his left cheek, the progress of which was most quick and alarming. He arrived that evening at his old lodgings at Thame; and an apothecary, after bleeding and other proper evacuations, ordered fomentations to the part, which, though applied so hot that the nurse could not bear to wring out the flannels without lapping them in a cloth, excited not the least sensation in the patient. The disease now occupied his whole face and head, and a gangrene was apprehended. Dr. Lewis was again consulted, and directed more blood to be taken away; and so very urgent were the symptoms, that, in the space of twenty-four hours, he lost forty-eight ounces of blood. An alteration, which was made in the fomentation, occasioned some degree of feeling; the swelling gradually subsided, and, in about three weeks he came into Lancashire, where, exactly at six weeks distance from the day the erysipelas first appeared, he had a second, though milder attack of it, and a third, still more gentle, at the very same period of time from the second.

“ The parotid and submaxillary glands now grew enlarged and painful, and, at last, suppurated in April, 1761. That summer he was sent to bathe in, and drink, the sea-water: the ulcers healed, and his health was so much improved, that he married before the conclusion of that season. For several successive years, a cough, loss of appetite, and other consumptive symptoms, visited him, with increased force, each spring; yet they generally yielded in some degree, to phlebotomy, nitrous medicines, elixir of vitriol, &c. and were always succeeded, as the weather grew warmer, by a scorbutic eruption and swelling of his legs, which were looked for impatiently, as a favourable omen of the departure of his other complaints.

“ In April, 1770, his usual train of symptoms made their appearance; but nature now seemed to have forgot to afford her accustomed aid. His cough was more severe than in former springs;

he complained of great forenefs and ftricture of his breast, which being attended with hectic heats and confiderable lofs of ftrength, threatened a fatal termination. Though he had formerly lived freely, the fmalleft quantity of any fermented or fpirituos liquor now intoxicated and inflamed him. Venæfction, a perpetual blifter, demulcents, and his ufual medicines, were tried in vain; when, in the beginning of June, having been perfuaded by one of his neighbours to drink a fmall draught of ale, a fudden hæmorrhage proceeded from the nofe, which had continued for fome hours before I faw him. Blood was taken from his arm, and the difcharge from his noftrils reftained by paffing tents up them dipped in the *lixivium martis* a little diluted. Though his blood was covered with a buff coat, yet as the texture underneath was loofe, he took freely of a decoction of Peruvian bark and tincture of rofes, to each dofe of which ten or twelve drops of *lixivium martis* were added, care being taken to keep his body fufficiently open. The bleeding returned again next day but one, and, though not very profufe, continued with little intermiffion twenty-three hours; but was at laft ftopped by the fame methods. He was greatly reduced by the lofs of fo much blood; yet his cough abated, the forenefs and tightnefs of his breast in a great meafure left him, and he paffed the autumn and winter, though in a very valetudinary ftate, yet free from any immediately alarming fymptoms.

“ His confumptive complaints returned in the fpring of the enfuing year, with redoubled violence, before he had totally recovered from the fhock he had received the preceding fummer. On my urging him to call in further advice, he confented to confult Dr. Kay, a judicious and very worthy phyfician of this town, by whofe fkilful treatment of him he obtained fome relief. But tired, and imagining every thing to be in vain, he determined to give himfelf a truce from all medicines. In a few weeks he recovered a better ftate of health than could have been expected; but he came on the 20th of July to inform me of an uncommon pain in his head, which attacked him every night as he lay down in bed, and fometimes infefted him in the day, at irregular hours. The defcription he gave me of it was as follows:

“ At its firft coming on, it fixed in fo fmall a fpace that he could cover it with the end of his finger. The feat of it was in the lower part of the *coronal future*, about an inch above the *os fphenoides*; and he fhewed me a vacuity or chafm, about an inch long and one-fixth of an inch broad, in the courfe of the *future*, which he feemed certain was not pre-exiftent to his head-ach; as he judged it impoffible it could have efaped his notice, having always fhaved himfelf. While the pain, which was exceffively acute and lancinating, remained here, the part was puffed up like an inflated bladder, for about the fize of a half crown piece, and the temporal artery appeared tenfe, like a diftended cord. From

hence it removed to the *processus condyloides*, and, while it remained there, occasioned a convulsive motion of the lower jaw; it then changed its situation to an inch and half below the angle of that bone, and after some duration in that point he became suddenly and totally easy. He had laboured under these complaints during three weeks.

“ On the 31st of July he called on me again, and gave me the following account: That his breath had had an unusually disagreeable and earthy smell, which commenced some days after the pain in his head first begun, and that as he was sitting in his own house, the day after his former visit to me, without any previous fit of coughing or retching, he was suddenly in danger of suffocation by something falling into the *œsophagus*, where it stuck. With considerable efforts, he spat up an angular solid substance, above the size of the end of his thumb, consisting of a hard brown and white matter, the latter of which on being pressed fell into a dry powder. The whole was covered with a greenish *mucus*, and resembled exactly in smell the *fœtor* which had affected his breath for several preceding days, and which now immediately ceased. He had felt no pain the day before this happened, nor had it returned since that time. On my examining the seeming deficiency in the *future*, he complained of intolerable uneasiness from the pressure of my finger, which he said seemed to affect the internal part of his head. I was much disappointed that he had not reserved the above substance for my inspection.

“ On the 8th of August, he had a slight return of the pain in his head, which lasted about two minutes; he then perceived something to fall into his throat, which he soon discharged, and proved to be similar to what he had before parted with, but in smaller quantity, and broken into several fragments. His pain instantly ceased, but a numbness continued in the side of his head and face, for several hours, both after this and the preceding evacuation. I have examined this matter with a good microscope; the white part appeared to be *calcareous*, the brown to be *mucus* hardened and adhering to the other. The smell was like that of bones, which have been long buried in the earth, on their being exposed to the air. The white matter strongly fermented with spirit of vitriol, but the brown occasioned no effervescence with the acid. The vacuity in the *cranium* was much diminished, when I saw him two days after this event; and he could then bear me to press upon the integuments, without suffering any consequent pain.

“ From this time he had no further return of his pain, during many months; and he acquired such a degree of strength as to be able to attend to the business of his farm, and even to ride thirty miles a-day on horse-back: and had I not been witness to the many vicissitudes of his constitution, I should have entertained hopes of

the re-establishment of his health. But in January, 1772, his cough again became worse; convulsive spasms sometimes attacked his head and neck; his stomach rejected almost every kind of food; and, often, the only liquor which it would retain, was rum, unmixed with water: he also complained of a sense of contraction in that organ.

“After having lingered in this miserable situation till the beginning of April, 1773, death put at last a period to his sufferings.” Unfortunately no light was thrown on this case by an examination of the body, though the patient in his life-time had desired it. Mr. Henry is therefore much at a loss to account for the above singular appearances.

“In the first place,” says he, “it may be asked, was there a translocation of matter from the lungs to the brain, or its *meninges*; and supposing that to be the case, would it not have produced more alarming symptoms? Of what nature was the substance he evacuated, and where could it have lodged, previous to its discharge? He had no sense of uneasiness, or obstruction in the *frontal sinuses*; nor about the nose nor *fauces*. Whence arose the vacuity in the *futura coronalis*? Is it probable that there had been a solution of the bone, from some acrimonious matter, which had been gradually absorbed, or immediately carried through the *sphenoidal sinus* to the *nasal*, and so deposited in the *cellular membrane* behind the *velum palati*? Or was it formed without any disease in the *cranium* or its contents; and did the head-ach arise from the irritation of this extraneous body wherever situated, antecedent to its falling into the *œsophagus*? And in this case might not the violence of the pain occasion a separation of the *suture*, so as to produce the chasm I have mentioned, without any loss of substance?”

Some of the circumstances seem rather to have entitled this case to be considered under the species of cephalalgia, which we are next to notice, viz.

CEPHALALGIA IDIOPATHICA.

Head-achs, in consequence of disease within the cranium, are marked, by Dr. Lettsom, with the following distinctions:

I. From accidents or blows on the head, separating bony fragments off the internal or external lamina of the cranium, and inducing acute inflammation of the brain.

Hippocrat. de cap. vuln. cap. x. Chart. T. xii. p. 119.

Johannes de Vigo in Practica, lib. iii.

Jacobus Berengarius de fractura Calvariae.

Ambrose Paré, Maniere de traiter les playes, &c.

Nicolaus Tulpius in observationibus, &c.

Conrad. Victor Schneider de osse occipitis ejusdem vitiis et vulneribus 1653.

John Schultetus, in armamentario, &c. ob. xvii. p. 214.

Petrus de Marchettis in Observation. &c.

J. Jacob Wepfer de locis affectis, &c.

Henr. Franc. le Dran, Observations de Chirurgie, &c. And
Traité des Operations.

J. Wilh. Albrecht, in Comm. Nor. 1735, p. 41:

H. Ravaton en Chirurgie Armée, &c.

Morgagni de Caus. et Sed. Morb. lib. iv. let. 41. art. 30, 34.

II. From similar causes, where the bony fragments have remained for a considerable time, producing chronic inflammation or suppuration.

Heliodorus de Capitis vulneribus.

Lanfrancus in Practica, &c. Tract. ii. cap. 1. de cura percussionis capitis.

Lud. Franc. Manne, Observations de Chirurgie au sujet d'une playe à la tête, &c. 1729.

Joseph Warner, Cases of Surgery.

Boneti Sepulchr. Anatom. tom. 1. l. i. § 1. ob. 105.

III. From bony substances within the cranium proving fatal, but unsuspected, and discovered only by dissection after death.

Cattierus Obs. Med. xv.

Borellus, Cent. 4. Obs. xcix.

Boneti Sepulchr. Anat. t. 1. l. i. §. 1. obs. 108.

IV. From bony substances lodged within the cranium, not proving fatal; but discovered by dissection, after the death of the patient by some other disease.

Boneti Sepulchr. Anatom. tom. 1. lib. i. sect. i. obs. 106, 107, 108, 113.

Barthol. in Anatom. Reform. l. iii. c. 2.

J. Rhodius, cent. i. obs. 32.

Neander in Tobaccalogia.

Lientaud, Hist. Anat. Méd. p. 160, obs. 65.

V. From bony or stony concretions, spontaneously formed, and from various ossifications within the cranium, and extraneous substances lodged in the brain.

Tho. Bartholinus, Hist. Anat. cent. iii. iv.

Aët. Haffniens. vol. ii. obs. 132.

Cummenus, Miscel. cur. anni 3. obs. 329.

Fabricius Hildanus, cent. i. obs. ii. et cent. v. obs. i. ex Kentmanno.

Hollerius, lib. i. cap. 48. in Scholio.

Halleri Physf. in variis locis, tom. iv. v.

Lieutaud, Hist. Anat. Med. obs. 552, 553, 554, 555.

VI. From aneurismal tumors pressing on the brain.

Dr. Blane, Hist. of Cases of Disease in the Brain.

VII. From tumors of other soft parts within the cranium. *Ibid.*

Most of the preceding distinctions are made by Dr. Lettsom in his history and treatment of a fatal case, attended with a painful affection of the head, published in the Memoirs of the Medical Society of London.

A gentleman, early in the year 1789, had a troublesome cough, which had frequently attended him in former winters, and also a slight head-ach, and occasionally sickness and vomiting.

By the usual remedies the cough was relieved, but the head-ach, sickness, and vomiting, remained. On the 26th of January he took an emetic, which evacuated much bilious matter; and afterwards a laxative was given. Some fever supervening, blood was taken from the arm, a saline mixture ordered, and at night an anodyne draught.

On the 27th a physician was consulted, who prescribed the tincture of castor and volatile spirit to be taken every four hours. This medicine having been vomited, and the physician not attending, the apothecary gave an alkaline draught with lemon juice in the act of effervescence, and at night an anodyne medicine, which the patient afterwards always asked for, as the only remedy from which he sensibly experienced any relief.

"On the 30th of January," says Dr. Lettsom, "I met the apothecary, and found the patient, from gradually increasing debility, confined to his bed, complaining of an heavy dull pain of the head, the seat of which he pointed out by placing his hand on the posterior extremity of the os frontis; on turning in bed, sickness always ensued, and sometimes vomiting of thin mucus, rarely of bilious matter. On pressing the region of the liver, he complained of no pain, nor did there appear the least turgescence of this viscus; the tunica albuginea was reddish or ferrety; light gave uneasiness; the pupils seemed to be in a natural state; the pulse was regular, rather full, and did not exceed fifty strokes in a minute. This slowness of the pulse, joined to the sickness, which did not seem dependent on the hepatic system, and the pale, limpid state of the

urine, induced me to suspect that the head-ach originated from local affection of the brain, and that the sickness was symptomatic of it; upon mentioning my opinion, I found that the apothecary had not been without the same doubts, and he hinted also the circumstance of a fall which happened to the patient three weeks before, who, in attempting to get into a coach, slipped down on his seat, but afterwards got into the carriage without noticing any indisposition or inconvenience."

Dr. Lettsom ordered him to lie in bed with his head elevated, to be blistered inter scapulas, and to take an infusion of colombo, and at night some calomel with the opiate.

"On the 31st Dr. Saunders was also consulted, who confirmed the suspicion of pressure on the brain; and we agreed to have the head shaved and embrocated with camphorated spirits of wine; to apply four leeches to each temple, and to repeat the anodyne bolus at bed-time, and through the day to give a saline laxative draught every four hours: the pulse on this day was as quick as sixty, fuller and harder:

February 1. "The pulse was seventy-six, and less full. A purgative draught was ordered, with half a scruple of the pulvis e scammonio compositus. He took also the infusum rosæ every four hours; and at night a bolus of half a scruple of confectio Damocratis. A blister was applied to the head.

2nd. "He had many copious stools, and seemed much debilitated; but the pulse beat eighty-two strokes in a minute, without increased heat or fever; the head-ach and sickness, however, continued much the same, as well as the ferrety look of the eyes, and their sensibility to light. He was so restless at night, that the apothecary, upon being called up, gave an opiate: the senses were perfect, but recollection was dull and slow. A saline draught was ordered with a scruple of confectio Damocratis every four hours.

3d. "He had a restless night, the pulse was about the same degree of quickness, but much weaker: dulness of apprehension was greater, and some degree of rambling came on. A mixture with confectio aromatica was occasionally given, and the same draught continued with the addition of thirty drops of thebaic tincture at bed-time.

4th. "Delirium and frequent incoherent muttering prevailed; with subsultus tendinum; and a slight strabismus, but no dilatation of the pupils. The same medicines were continued with the addition of a clyster.

5th. "All the symptoms were augmented: the pulse was irregular and fluttering, and stupor and low muttering were increased. Blisters were applied to the legs; and the musk julep, and a solution of myrrh, ordered to be taken frequently."

This patient died soon after, and Mr. Ware, who opened the body on the 7th of February, describes the following appearances:

‘ In the abdomen, the stomach and intestines appeared slightly inflamed; and the intestines were much distended with air. The liver, spleen, and kidneys, were perfectly sound.

‘ In the thorax, the right lobe of the lungs intimately adhered to the pleura. The left lobe likewise adhered, but the adhesion was less extensive.

‘ In the head, the dura mater appeared inflamed; and in the duplicature of its falciform process, nearly midway between the os frontis and occiput, and almost as low as the corpus callosum, two hard bony substances were found enveloped. The largest of these, which was about the size of the nail of the little finger, was flattened and irregular in shape, and had sharp serrated or jagged edges; its weight when dry was four grains. One of its sides was nearly smooth, having only one or two small furrows in it, similar to those which are made by the pressure of the vessels of the dura mater on the inside of the cranium. Its other side was rough and uneven, and a little marked with blood. The smallest of the bony substances was long and slender, resembling a portion of a fine needle, and having its extremities terminated in sharp points. In the ventricles the quantity of water was greater than is usually found. The other parts of the brain were undiseased.

‘ The appearance of the bony substances above mentioned did not answer to the idea usually entertained of a morbid ossification of a soft part; but they rather resembled portions of the cranium forced by accident from their natural position. It is not easy to explain the manner in which these bones could make their way from the cranium to the part in which they were found; nor on examining the cranium, which was done with the greatest care, could the smallest mark of injury be perceived.*

“ In original depositions of bony matter, or soft membranes, the substance is usually of a loose friable texture; the bones found in the present instance were as hard as the surface of the tibia; in shape not very dissimilar to a gun-flint with jagged edges.

“ The interior surface of the cranium was smooth, and the periosteum in a sound state; and, considering the hard texture of the bony fragments, it was difficult to account for their admission within the cranium, till an explanation was afforded by the family of the deceased.

“ I was then informed,” continues Dr. Lettsom, “ and not before, that about twenty years ago the patient had had a violent fall from a horse, which it was then supposed had fractured the skull, and it was some months before he was restored to health, without undergoing any operation on the cranium. Hence may it not be suggested that these hard pieces of bone had been frac-

* The accident which happened to this gentleman at an early period of his life, was unknown when this account was first drawn up.

tured from the internal lamina of the cranium at the period of this distant accident?

"The slight inflammation of the intestines and stomach, might arise from frequent vomiting and long inanition, the inflammation and adhesion of the lungs and pleura appeared to be chronic affections, as he had long been troubled with a cough, and during the last illness it was less violent than usual, though more noticed from the concomitant head-ach and sickness.

"I conceive, therefore, that the immediate cause of death was in the head. In adults the ventricles of the brain never greatly dilate, and, for the period of the patient's age, the quantity of water in them was considerable. Probably, however, the irritation from the preternatural bony substances gave rise to inflammation, and the consequent collection of water in the ventricles."

In the Transactions of the London Society for medical and surgical improvement, there is a history of some cases of head-ach arising from disease in the brain, with an account of the appearances after death, and some general observations on complaints of that nature, by Dr. Blane, which are highly worthy of a place here.

The first related is a case of head-ach arising from *Aneurisms of the Carotid Arteries*. The subject of it was a lady who, till a few years before her death, had enjoyed a good state of health, had always indulged in eating, but had been temperate in drinking.—Several of her family had been affected with complaints of the head, particularly apoplexy.

About five years before her death, being then 64 years of age, she was suddenly seized with a giddiness and dimness of sight, succeeded by acute pain in the forehead, which remained for some time, or recurred at intervals. The indistinctness of vision continued for six months.

She had a similar attack two years after the first, from which also she recovered to a certain degree. From this period she continued to be subject, from time to time, to the above-mentioned symptoms as long as she lived.

"I first visited her," says Dr. Blane, "on the 9th of March, 1791, about sixteen months before her death. She had some time before this betrayed signs of mental derangement, and I found her at this time evidently maniacal. The symptoms however were so mild that she was sensible of her own situation, frequently talking of it, and lamenting it. She recovered from this attack in three weeks.

"In September following she had another attack, more severe and with more fever. She recovered from this in a month.

"In the middle of December following she became insane to a great degree, and this attack seemed to have been brought on, or at least aggravated, by strong emotions of joy and vanity upon her

daughter marrying a man of very high rank. She was now violent and unmanageable, sometimes in gay and elevated spirits, at other times depressed, again facetious, and almost always refusing food, drink, and medicines.

"She continued in this state till the first week of February, 1792, when she recovered her senses. On the 4th of June following she became affected with giddiness, redness of the eyes, and numbness of the hands. She expressed herself conscious of approaching *mania*, and it came on with great violence, attended with symptoms of fever. On the 19th the fever increased, with aphthous sores on the throat. The alienation of mind continued, but evidently partook more of *mania* than feverish delirium. She continued in this state till her death, which happened on the 30th of this month, in the 69th year of her age.

"The chief means used for her relief at the different periods of my attendance, were taking away blood from the head, or near it; purgatives, antimonial medicines, abstinence from animal food and fermented liquor, from which she seemed to derive temporary benefit.

"Upon examining the body, there was no appearance in the brain itself that could in any way account for the symptoms.—There was indeed a greater quantity of fluid than common in the ventricles, and the surface of it was moister than it is usually found in a sound state, but in all other cases which have occurred to me of organic affections of the brain proving fatal, except those which are sudden, such as apoplexy, there has been a preternatural quantity of fluid in its ventricles. There were also *spiculæ* of bone in the membrane, forming the *falx*. The inner substance of the *crura cerebri* was of a brown colour, and more tender than natural. The optic nerves were smaller than natural, as if they had been wasted. The *septum lucidum* was more than usually dense.

"But the morbid appearance in this case which was so singular, and to which the symptoms of complaint seem chiefly referable, was two bulbs about five-eighths of an inch in diameter, filling up the hollow on each side of the *sella turcica*, which were evidently dilatations of the carotid arteries, and from their being filled with *laminæ* of coagulated blood, there could be no doubt of their being aneurisms of these arteries. The one on the left side was the largest. That on the right side communicated with the cavity of the artery, which was not the case with the other.

"It is probable that one of the aneurisms arose five years before her death, occasioning the first attack described, and that the other arose two years afterwards, occasioning the other attack. It is also probable that it was between these two attacks that she saw objects double from the unequal compression on the optic nerves. The brain differs from all the other organs of life in this respect,

that it is much affected by partial compression, and compression has a greater effect upon it by its being inclosed in an unyielding bony cavity.

“How far this and the other appearances were connected with the mental derangement and other symptoms, and how far, and in what manner, these morbid affections were connected with each other, it is difficult to ascertain. Whether the yielding of the arteries was owing more to a preternatural weakness in their coats, or to a plethora, or to their increased action, to one or all of which the hereditary disposition to disease seems referable, are questions which cannot easily be decided, but it is an obvious practical suggestion, that the offspring of this lady should observe strict temperance. This precaution was accordingly given, and in consequence of it her eldest son, who had begun to experience fits of giddiness, has been free from these causes of alarm ever since that event, which is five years, having observed during that time a very strict regimen.”

Dr. Blane's next case is that of a *Tumor found in the situation of the Pineal Gland.*

The patient was an officer of the navy, who had enjoyed a good state of health through life, and was of temperate habits, but had undergone great fatigue and anxiety in the exercise of his profession. He began to complain in the beginning of February, 1794, when thirty-three years of age, of a slight pain, or rather confusion in his head. His appetite became at the same time impaired, and he was more thirsty than natural. These complaints continued rather to increase, but were not so violent as to prevent him from doing his duty as an active officer till the 20th of April following. At that time he was seized with sickness at the stomach, and pain in the balls of both eyes, particularly when he turned them to either side. This was the beginning of a febrile indisposition, which confined him to his bed, or cabin, for a fortnight. The complaint then took the form of a tertian ague, for which he took the Peruvian bark, and soon recovered from it. But the uneasiness of his head continued, and he was so weak and emaciated that he did not undertake his duty till the 26th of May.

A few days after this he was wounded in the celebrated battle of the 1st of June, by a langrish shot, which divided the temporal artery. He lost a great deal of blood, and the bone was injured so that part of it exfoliated some weeks afterwards. The headache was not materially increased by the inflammation attending the wound, although he was in a state of constant fatigue and anxiety from the high and responsible situation which he held.—He was not confined a single day in consequence of his wound, and it healed immediately after the exfoliated bone was extracted.

After this he was free from complaint, so as to go to sea upon very active service in several cruises, during which he had only a

slight cold now and then, and a temporary head-ach, which was neither acute, nor fixed. He continued to enjoy this state of health till the end of December, 1795, when in a cruise on the coast of France, attended with a great deal of harassing duty, he was attacked with a complaint similar to that in spring, 1794, but more severe, and attended with watchfulness, flushed face, and inflamed eyes. In this state he went to Bath in the end of January, 1796. He was there cupped in the neck, and was frequently purged by administering calomel, and two hours afterwards an infusion of fenna, with manna and purging salts. From this treatment he seemed to receive relief, and after leaving Bath, he took the same purgative daily for upwards of three months.—After this he was attacked with a severe griping and obstinate costiveness.

Upon recovering from this he was in sufficient health to be able to resume his duty in summer, 1796. He continued well till in a cruise off Brest, in December, 1796 he was again attacked with the pain of the head in a still more severe degree. From this he was never afterwards free, though it fluctuated in point of severity.

“I first visited him professionally,” says Dr. Blane, “about the middle of February, 1797. During the course of my attendance, I found, together with the symptoms already described, the tongue constantly white, and the pulse from 80 to 90 strokes in a minute. These symptoms continued the same during the remainder of his illness. He was not very sensible to light or noise, but extremely so to motion, which produced a very uneasy sense of jarring in his head. He used frequently to say, that the pain was in a spot in the occiput, to which he put his hand. He said, at other times, that the pain was diffused over the whole head. He all along complained that it was particularly severe upon going to stool.

“After he had been in town for a few days, he went to Tunbridge for the sake of retirement, and nothing remarkable happened till the middle of April, when he was seized with a spitting of blood, after having drank the Tunbridge waters a few times. It is very uncertain whether the drinking of these waters had any connection with that symptom. Upon this he came to town, and the hæmorrhage disappeared after taking for a few days the remedies usual in such cases. He continued to suffer extremely from the pain in his head, which he described as excruciating, and such as he hoped nobody before had ever experienced. The only other symptom worth mentioning, was a small degree of numbness and weakness of the left hand.

“In this state he continued without any material change till the end of May, and no relief was obtained. The medical treatment consisted chiefly of blisters and issues, together with the ex-

hibition of valerian, castor, and opiates; saline antimonial, and laxative medicines were occasionally given, with a view to palliate symptoms, and he was cupped on the head. He had entered on a course of calomel in small doses, but had not continued it a sufficient length of time, nor in such quantity as to expect any benefit from it. He never was confined to bed till the 30th of May, and was in possession of his understanding till that time. On this day he was suddenly seized in the evening with delirium, which continued with violence for fourteen hours. He then recovered his reason to a certain degree, but during the greater part of the remainder of his life he remained generally in a state of delirium, or stupor. On the 3d day of June he became quite insensible, and died on the next day.

“ On opening the body, the appearances that presented were the following :

“ On the left temple, where he had received the wound, there was a small depression, owing to the outer table of the skull being carried off. The skin was drawn down to the bone by a sort of ligamentous substance. The inner table was in no respect injured.

“ The cranium was more vascular than natural, and also thicker, but irregularly so, being much thicker in some parts than others. The *diploe* appeared obliterated.

“ The *dura mater* separated very easily from the cranium, and the surface of the bone was somewhat rough, as if from numerous blood-vessels entering it.

“ In the lateral ventricle of the brain, there were about three ounces of fluid. The *fornix* and *septum lucidum* were softer in texture than usual. There was a little water in the third ventricle.

“ The *nates* and *testes* did not appear distinct, and in the situation of the pineal gland was a hard firm tumor, of the size and shape of a nutmeg, about half an inch in diameter. Though in consistence it was like soft cheese, and cut smooth; yet it was not inorganic, for it had blood-vessels in its substance. It lay in the angle, as it were, formed by the two lobes of the *cerebellum* and the protuberances called *nates* and *testes*, a little on one side, that is, towards the right. The substance of the *cerebellum* appeared as if bruised or mashed by it, and the pulpy matter adhered to the tumor; but whether this was merely from proximity, or that they were united in substance, could not, from the softness of the *cerebellum*, be clearly ascertained. There was no pineal gland to be found, but whether this tumor itself was the pineal gland in a diseased state, or that by the size and pressure of the tumor, that small organ was destroyed and obliterated, must be matter of conjecture. As the tumor did not adhere to that part to which the pineal gland is attached, I am inclined to the latter opinion. The substance of the brain in general was rather of a firmer con-

istence than is usually found. In other respects the brain and cerebellum appeared natural and sound.

"The thorax being examined, there were numerous tubercles on both sides, such as are found in the beginning of phthisis pulmonalis. There was rather more water than natural in the pericardium, and there was much fat on the heart.

"In the abdominal viscera nothing unnatural was observed.

"Under the skin, near the right mamma, was a small tumor, in size and consistence not unlike that which was found in the brain, but of a flat shape, and had a sac: it was softest in the centre."

Dr. Blane makes the following judicious reflections on this case: "It can hardly be doubted," says he, "that the tumor in the brain was the principal and perhaps primary cause of the symptoms, as well as of all the morbid appearances in the head.

"It may be of consequence to enquire, whether if the cause had been known, any mode of treatment more promising of success could have been adopted. It was a disease most probably out of the reach of art, but the only means that occur to me, either from experience or analogy, as advisable, would have been a course of mercury at an early period of the complaint. We know that this can, in other cases, excite an absorption of solid matter deposited in disease, and I have known cases of chronic head-ach, though not of a venereal nature, cured by courses of mercury.

"It has appeared in the history of the case, that the symptoms were at times greatly mitigated, and even as it were suspended. The first interval of ease was after the wound, and it is not improbable that the loss of blood, or subsequent suppuration, or both together, had a share in producing this. If this was the case, it suggests the propriety of large local bleedings and issues.

"The other interval was after the course of medicine at Bath, and if this is imputable to the mercurial purgatives, it may afford a further indication regarding the treatment to those who may hereafter meet with a similar case.

"As far as I am conversant with the morbid appearances of the brain, the two preceding cases are very rare, and I have selected them as the most uncommon of any that have occurred to me. No other instance of the first has occurred either to my observation or reading. Of the second there are several specimens among the morbid preparations, in the collection of that celebrated anatomist Dr. William Hunter. These were in the substance of the *cerebrum*. One occurred to myself, of which the following were the most remarkable symptoms and appearances. The patient complained for six months before his death. During the first four months of this time, the symptoms consisted chiefly in long, frequent, and painful spasms of the muscles of the extremities of the left side. He was attacked with a *hemiplegia* of that

suffered two months before his death, and had the usual symptoms of that complaint while he lived. The spasms from that time ceased. Upon inspection of the brain, there was found between the lateral ventricle and the parietal bone, an extensive *sinus*, and a round tumor, like what has been described at that extremity of it which was contiguous to the bone. The subject was a middle-aged man, much addicted to venery.

“ In reviewing my notes on the subject of morbid appearances of the brain, the most interesting case besides these, is that of a great thickening and hardness of the skull, with bony protuberances, some of which were blunt and others sharp, proceeding chiefly from the basis of it. The most remarkable symptoms had been temporary failures of memory for some months before death, sudden fits of insensibility, like apoplexy, from time to time, for some weeks before death; and violent convulsions, attended with severe sufferings for some days before that event.— During the existence of this disease, there was at intervals an entire freedom from complaint; and it is remarkable, that in various other diseases affecting the structure of vital parts, the functions are at intervals perfect and unimpeded, and symptoms of disorder arise only when the parts are too much excited or disturbed, or when the cause of the disease arises to a great height.

“ It sometimes happens, that the brain is in a diseased state, even that of suppuration, abscess, bloody or serous effusion, without any head-ach.

“ On the other hand, the ordinary head-achs with which people are affected, seem to be seated in the integuments of the head.— The seat of that kind called hemicrania is certainly in these parts; for there is a great tenderness on external pressure; and as there is sometimes an obscure redness of the skin, and a suffusion of the eye, it would appear that the proximate cause is a too great fullness, or *error loci*, in the circulating vessels. This state of the vessels seems to be induced rather by a weakness of the vessels than too great action, for evacuations are in general of more hurt than benefit, and if it is relieved, or cured, it is by remedies of an opposite nature. This complaint, particularly when periodical, is often successfully treated by administering valerian freely, conjoining with it, occasionally, Peruvian bark and iron.

“ One of the most common morbid appearances, upon inspecting cases of *chronic head-ach*, is a thickening of the membranes of the brain, owing probably to a slow inflammation. The cases in which mercury has been found successful, have most probably been of this kind. It seems to act here, as it perhaps does in the venereal disease, by exciting absorption, and in both the most successful method of introducing it is by friction.

“ There are many cases of head-ach depending on *indigestion*, and the seat of these seem to be the integuments, as there is generally in such cases a tenderness to the external touch.

“ One of the principal difficulties in practice is to discriminate those cases of head-ach which depend on the stomach, from those depending on some affection of the part itself; and it may be affirmed in general, that one of the chief causes of ambiguity, in ascertaining the seat and causes of diseases, arises from the mutual consent resulting from the nice dependence of every part and function upon every other part and function, a dependence which in health is essential to the existence and welfare of the whole system. In consequence of this connection, one organ draws another into sufferance, and renders it difficult to ascertain which of them is primarily affected.

“ There is, perhaps, no part of morbid anatomy better understood than the connection of the common hemiplegia with a certain diseased state of the brain, but there are many other affections of this organ of which the history is very defective.

“ The symptoms attending diseases of the brain are head-ach, vertigo, delirium, spasms, convulsions, palsy, mental derangement, and imbecility. If the morbid history of the brain were perfect, we should be able, from the history of the various combinations, the duration, and successions of these, to infer the internal change which produces them. The actual state of our knowledge however is such, as to leave us in great doubt and uncertainty on this subject.”

The foregoing histories shew how little can be done by art, in chronic head-achs, arising from causes so irremediable, even if previously known; but much greater is the difficulty to which the physician is exposed when the disease is so truly anomalous as has been represented.

CARDIALGIA.

The HEART-BURN.

1. *Description.*] This complaint is known by an uneasy sensation in the stomach, anxiety, heat, which extends sometimes up the œsophagus, oppression, fainting, inclination to vomit, a discharge of clear lymph from the stomach. The mind also seems disturbed; there is a difficulty of breathing, loss of strength, coldness of the extremities, frequent eructations, which, while discharging, alleviate the pain; head-ach, vertigo, trembling, a weak pulse that is intermitting and unequal; the face is pale, yellow, or livid, &c. A greater or smaller number of these symptoms are the attendants of the *cardialgia*, which approaches generally with yawning and listlessness, and at its height the extremities are cold. It does not quit the patient till heat returns into the feet, and it often totally vanishes with a copious perspiration.

The *cardialgia* must be distinguished from that oppression and uneasiness in the stomach, which is only the effect of overcharging it with food, the colic, and a swooning.

Dr. Cullen ranks it as synonymous with *Dyspepsia*; and considers it as arising either idiopathically, or symptomatically, in two ways; first, from a disease of the stomach itself; second, from an affection of some other part, or of the whole habit. We have, for this reason, noticed Cardialgia under the foregoing head; and also under PYROSIS, or *water-brash*. We are assured, however, that the latter has only a few of the symptoms in common with Cardialgia, neither are we satisfied with the decision of Dr. CULLEN, in this respect; for which reason we give the disease a distinct place in our work.

2. *Causes.*] These are various, as *flatus*, *acid*, and other acrimonious humours in the stomach, a deficiency of its mucus, pungent aliment, worms, a transition of rheumatism or gout to the stomach, or an ulcer in any part of it; fat aliment, especially if cold small liquors are drank too soon after eating it; bilious matter, which is known by bitter and nauseous eructations, as well as by a yellow or greenish discharge by vomiting; congestions of blood about the region of the stomach, from a plethora, or from spasms. Dr. Hunter thought this disorder rather caused by fumes arising from acrid humours, than from the humours themselves: the reason assigned is, because if the patient puts himself into a posture to prevent the fumes rising to the part affected, immediate relief is generally found. A spasm in the orifices of the stomach, by which the vapours are impeded in their passage from this viscus, and by the heat of the part rarefying the air, produces a distension, anxiety, &c. particularly after meals. Corrosive poisons, stones in the gall-ducts, or in the ureters, by sympathy produce this disease in the stomach.

If this disorder succeeds a fever, with petechial or purple spots, it is generally a fatal sign; following a cessation of pain in gouty limbs, manifests a translation of the disorder inwards; or if it succeeds foul exulceration in the skin, there is much danger. Coming on upon a sudden check of dysentery, it is a bad sign; but, except it is attended with inflammation, or is the consequence of some other disease, it is rarely dangerous.

3. *Cure.*] It should be considered, in treating this disease, whether it is merely *symptomatic*. If it is, regard must chiefly be had to the primary disorder; but if it is an *original* complaint, its various causes must be adverted to, that the remedies may be adapted to the particular one in question.

The diet should be light, generally of the animal kind: what is drank should not be apt to ferment; brandy and water, or water in which toasted bread is steeped, will generally agree; or camomile tea, which soothes the spasmodic motions of the stomach.

Lime-water, the mineral alkaline waters, and distilled water, are proper for common drink.

If acid juices in the *primæ viæ* are the cause, absorbent earths, or rather mild alkaline solutions, will be the remedies; and of these the mixtura cretacea, magnesia alba with small doses of the natron, are elegant and efficacious.

If with acidity the digestion is weak, besides the magnesia at proper intervals, bitter infusions mixed with mild aromatics will be proper, and chalybeates, particularly the rubigo ferri, or tinctura ferri muriati.

Acrimony of any kind is relieved for the present by cold water, in which gum-arabic is dissolved. If the acrimony cannot be got the better of by dilution, we must endeavour to evacuate it by vomiting the patient with camomile tea, or ipecacuanha.

When worms produce it, avoid all the acrid anthelmintics; give warm milk, mint, penny-royal, or any other simple distilled waters.

In *hysteric* or *hypochondriac cardialgias*, light infusions of the bark, with rhubarb, and small doses of fixed alkaline salt; the chalybeate waters, and exercise on horseback, should also, if possible, be used. In hypochondriac cases, nitre is often useful.

When a vomiting attends a *bilious cardialgia*, avoid hot carminatives, but supply the patient with sp. ætheris vitriolici compositus, in due doses, and as frequently as the urgency of the symptoms requires.

In general, in any of the cases of alkaline acrimony, after an emetic, a gentle cathartic, or both; acids, such as the Sp. æth. nitrosi, Acid. vitriol. dilutum, Sp. ætheris vitriolici compositi, diluted with water, or other small liquors, are indicated.

If produced by salt aliments, warm water should be drank, and after it a little of any spirituous liquor.

If aromatics or high-seasoned food be the cause, frequent draughts of warm water give the speediest and most effectual relief.

When an undue use of spirituous liquors creates this disorder, the bark and vitriolic acids before and after meals, moderate exercise, and the mineral alkaline waters, are the best means of recovery.

When flatulence, with a weak stomach, are the chief causes, carminatives, such as flor. cham. vel cort. aurant. ʒss. ad ʒj. gives much relief; but mild opiates are often to be preferred.

Violent vomits, drastic purges, and caustic poisons, produce this disorder; and when these are its cause, give plenty of warm water to promote two or three discharges upwards, then milk and water and oily mixtures, with small doses of some warm opiate.

Gouty matter in the stomach, causing this complaint, is to be removed by æther and brandy, or other warm cordials, taken in

moderate quantities, until the stomach itself becomes warm: how much will do, the feelings of the patient alone can determine.

Medical men have differed as to the immediate seat of this disease; some acquiescing in the general opinion, and others contending that the stomach is affected at its lower orifice. The question is scarcely worth deciding, since the remedies are the same in either case.

The following case shews, that an irritation of the *pylorus* from mechanical obstruction, will produce this affection. It is entitled, "An Account of a Case of Scirrhus Pylorus," communicated in a letter from Dr. Harrison, of Philadelphia, to Dr. Nath. Hulme, and read April 18th, 1796, to the Medical Society of London.

"Mrs. Bowyer, of Philadelphia, aged 57, had been afflicted above a year with cardialgia, flatulencies, a slow fever, and frequent vomitings. She was not thirsty, her body was open, pulse slow but regular, her tongue somewhat white, and towards morning dry.

"Sept. 29, 1795," says Dr. Harrison, "I directed her to take at bed-time four grains of James's powder, which producing no sensible effect, was afterwards increased to six grains, and continued regularly until the 8th of October, but without any advantage to her. As she laboured under great debility, I then directed a tonic medicine, consisting of vitriolated iron, myrrh, and tincture of bark; and, as she generally brought up after nourishment, which was chiefly water-gruel, a quantity of porraceous bile, I advised an emetic of ipecacuanha, which operated moderately.

"October 12. She was ordered to take 3 gr. mercur. dulcis, with 10 grains of rhubarb, which producing no effect, was repeated the next day somewhat stronger, but without effect, being brought up by vomiting a few hours after taking it. To allay this last symptom, a solution of conserve of roses, with the addition of vitriolic acid and opium, was also tried, but in vain.

"After this she became much reduced, living entirely on water-gruel. One grain of vitriolum cœruleum was taken in a pill, but shortly after rejected with some seeds of water-melon, swallowed the preceding August. This occurred on the 20th of October. Imagining that I now perceived an hardness of the pylorus, I directed a dram of ung. hydrarg. fort. to be rubbed every night on the region of the stomach, and, for the purpose of nourishment, clysters of mutton broth to be given three or four times in the day, which seemed to be beneficial to her, as her pulse became stronger. In this state she continued vomiting up the seeds of melons and grapes, using no medicine but the liquor. cornu cervi to relieve cardialgia and flatulency, and opium to procure sleep. By a shameful neglect of her attendants, the nourishing cly-

ters, which were her sole support, were not regularly given. Delirium from time to time, supervened, and the bilious vomiting continued. In this manner, with the addition of an aphthous state of the tongue, she remained until the 7th of November, when she died.

The next morning I opened the body in the presence of several medical gentlemen. The heart and lungs were perfectly found, the stomach appeared much enlarged and distended with flatus, containing also a quantity of fœtid ropy matter. The *pylorus* was *scirrhus*, and the passage into the duodenum scarcely pervious to a goose-quill. In that passage two damascene stones were impacted, so as to close it. The liver seemed found, but in the *vesica fellea* was a gall-stone of the size of a mulberry. The pancreas was enlarged, and the mesenteric glands indurated. The intestines appeared in their natural state."

Dr. Harrison asks, Did not the long-continued practice of *swallowing fruit stones* lay the foundation of this complaint in advanced years? We think the affirmative pretty evident; and hope the fatal event which attended that vulgar and senseless practice in the case just related (as well as many others upon medical record), will operate as a warning with those inconsiderate persons who may happen to observe it.

Many of the remedies prescribed under *DYSPEPSIA* and *PYROSIS* are applicable in this disease.

MELÆNA.

1. *Description.*] The melæne is known by a discharge of black, grumous, viscid blood, or bloody fœtid matter, from the intestines by stool, or from the mouth by vomiting; with griping pains in the abdomen, a sense of great weight and distension in the epigastrium, loss of appetite, great debility, faintings, and pyrexia; and sometimes a discharge of scybala accompanies that of blood *per anum*.

This is the *morbus niger* of Hippocrates, a disease not very common, but noticed by the ancient physicians. Hippocrates, Boerhaave, and Van Swieten, supposed it to be occasioned by *atrabilis*. But Dr. Home, in his *Clinical Experiments*, shews that it is owing to an effusion of blood from the meseraic vessels, which by its stagnation and corruption assumes that strange appearance. The disease, he says, frequently follows hæmorrhagy; and those of a scorbutic habit are most subject to it. It is an acute disease, and terminates soon; yet it is not attended with any great degree of fever. In one of Dr. Home's patients the crisis happened on the eighth day by diarrhœa; in another, on the 14th, by sweat and urine; and a third had no evident critical evacuation.

2. *Causes.*] Blood effused into the intestines from the vena portarum, or meseric veins; or into the stomach from the vasa brevia, or vena portarum, in general proceeding from a diseased liver.

3. *Cure.*] This disease is seldom idiopathic, or to be considered as a case of active hæmorrhagy: it arises most frequently from obstructions of some of the abdominal viscera pressing on the blood vessels mentioned above; suppression of accustomed hæmorrhoidal discharges, or scurvy, or other putrid diseases. If it is attended with evident marks of plethora, and other symptoms of active hæmorrhagy, bleeding will be necessary, with all the other means, except strong internal astringents. The blood must be evacuated from the intestines by gentle laxatives.

(No. 430.) ℞ Fol. fennæ ʒij.

Cort. limon. succ. ʒiij.

Coque in aq. fontan. ʒx. ad colat. ʒvj. addendo sub finem coctionis,

Cryst. tart. ʒfs.

Syr. simp. ʒij.

M. f. mist. fum. cochl. ij. 2da vel 3tia quaque hora donec respondeat alvus.

Vel, (No. 431.) ℞ Ol. ricini ʒfs. (in vitel. ov. sol.)

Aq. puræ ʒifs. M. f. haust.

Vel, (No. 432.) ℞ Pulv. rhab. ʒj.

Calomel. ppt. gr. iij. M. f. pulv. mane primo fumend.

Laxative clysters should also be injected. The putrefaction of the blood collected in the intestines must be prevented; for which purpose the acidum vitriolicum dilutum will be very proper, at intervals, between the laxative medicines.

(No. 433.) ℞ Muc. gum. arab. ʒiij.

Aq. puræ ʒiv.

Acid. vitriol. dil. gtt. c.

Syr. althææ ʒj.

M. f. mist. capt. cochl. ij. 3tia quaque hora.

Cold bathing of the lower extremities may be very useful, and bark with preparations of iron.

The diet should be cooling and antiseptic; and port wine and water acidulated, or old hock and water, will be very proper drink.

If it arises from suppressed accustomed evacuations, they must be restored; if from visceral obstructions, their removal must be attempted by the means pointed out when treating of them. If it is an attendant on scurvy or other putrid diseases, the general putrid diathesis is to be corrected by the proper remedies, and in all these cases the discharge of the blood from the intestines must be promoted by gentle laxatives.

The foregoing means are suggested by Dr. Temple. Dr. Home observes, that bleeding is always necessary where the pulse can bear it; nor are we to be deterred from it by a little weakness of the pulse, more than in the enteritis. Emetics are hurtful, but purgatives are useful. But the most powerful medicine for checking the hæmorrhagy is the vitriolic acid: and, that this might be given in greater quantity, he mixed it with mucilage of gum-arabic; by which means he was enabled to give double the quantity he could otherwise have done. The cold bath was tried in one instance, but he could not determine whether it was of any service or not. The cure was completed by exercise and the bark.

The following abstract of a case of melæna, by Mr. Key, surgeon, in London, appears in the Memoirs of the Medical Society.

The subject of this case was a man, who had for some years suffered much inconvenience from abscesses in the loins, about the region of the kidneys, which had been occasionally opened; purulent matter had been discharged with the urine; a stone passing into the bladder seemed to have occasioned these symptoms; but as he would not submit to an examination, it was not known with certainty till after his death. A tumor had likewise formed on the anterior and upper part of the scrotum, which had terminated in suppuration, and which, on being opened, discharged a large quantity of fetid dark-coloured pus.

A short time previous to his death he was seized with slight shiverings and tremors, which were succeeded by a very quick pulse, and a copious vomiting of dark-coloured bile, accompanied with a fluid resembling blood; his stools had the same appearance; this discharge continued to increase till a period was put to it by his dissolution.

On dissection, the liver was found of the natural size; but in appearance it resembled the spleen, and likewise wanted that firmness which is usual in that viscus; on cutting into it, it had the appearance of a sponge filled with bile and blood. The gall-bladder was twice its usual size, and filled with bile almost black. The stomach and intestines contained a large quantity of a fluid similar to that he had vomited, and which had evidently passed from the gall bladder through the ductus choledochus.

The kidneys, ureters, and bladder, were very much diseased; one kidney was invested with a very hard fleshy substance, which was evidently the effect of inflammation, and readily pointed out the seat of those abscesses which had been formed in the loins. A calculus was found in the bladder, which weighed more than one ounce and a half. The other viscera were in a healthy state.

OF POISONS,

AND THE MEANS OF COUNTERACTING THEIR EFFECTS.

Some of these have been treated of already under APOPLEXY, as being of a nature calculated to produce their fatal effects on the brain. We here resume the subject, and insert some important remarks of different writers on those poisons which occasion death in other ways. On the subject of *mineral poisons*, acting more immediately on the stomach, we extract the following from the late Dr. Houlston's Essay on Poisons.

"The poisons known in Europe," says he, "act either mechanically or chemically, on the primæ viæ, or on the nervous system. Thus, pounded glass has been given, and occasioned certain death, by bringing on inflammation of the stomach and intestines; thus, sponge has been given to produce a fatal stoppage of the first passages; and strong caustic alkali, swallowed hastily by mistake, has been followed by death. The former act mechanically on the parts to which they attain; the action of the caustic alkali, though chemical, is also only topical; and did it not, even in its passage before it reaches the stomach, produce irreparable and fatal mischief, its power might be lessened by the mucus it met with, by oily or mucilaginous medicines, by fixed air, or by means of an acid instantaneously exhibited.

"The poisons, however, the effects of which we are commonly called upon to obviate, may be considered under the different heads of the mineral, vegetable, and animal poisons; upon each of which, it may be of use to make some few general observations.—Of the mineral, the saline preparations of mercury, lead, copper, and antimony, *i. e.* the solutions of these metals in different acids, are, in very small doses, useful and powerful medicines; but, given in no great quantity, are active and virulent poisons. When these have been taken, it has been recommended to dilute largely with water, to evacuate by vomits, and to blunt their acrimony by oil, milk, &c.; but no medicine will have so immediate and beneficial an effect as a solution of any alkali; which, uniting with the acid, decomposes the salt, and precipitates the metal in the form of a calx, nearly or wholly inactive. When this is done, the former methods may be used with much greater advantage."

It is surprising, that so obvious a remedy against the action of these metallic salts, should not have been noticed by Tissot, Buchan, and others who have written on the subject; especially as these excellent authors wrote avowedly for the public. In some of the periodical works of that period, Dr. Houlston published the following remarkable cases, well calculated to supply this de-

ficiency, and to afford a convincing proof of the good effects of *kali* as an antidote to corrosive sublimate, which is one of the most powerful of the metallic salts, and also difficultly soluble in water: and as in one case it was swallowed in a solid form, it only acted, as it dissolved, gradually and repeatedly; the violent symptoms produced by its solution, yielded, almost instantaneously, to the alkali.

CASE I.—“In 1774, one Jones, a cow-keeper of Liverpool, was convicted at the Lancaster assizes of poisoning his sister-in-law, in revenge for having opposed him in the sale of some property, of right belonging to the children of her sister, his former wife. Under an appearance of reconciliation he had treated her, and the wife of the intended purchaser, William Ashcroft, one morning at a public-house, with some ale, which he himself had warmed. He put sugar in it, and had repeatedly poured it backwards and forwards from one cup into another. The sister-in-law went thence into the neighbourhood of Ormskirk (thirteen miles distant), where, in a few days, she died. The coroner could not attend so soon as was desired, and the body was in a very putrid state when it was opened. In the stomach were found some small particles of what was judged to be corrosive sublimate; but of this circumstance I was not informed till after the other woman was better.

CASE II.—“Mrs. Ashcroft came to me, May 5, a week after her drinking this ale. Immediately after she took it, she set out to go to Prescot (seven miles) part of the way in a carriage, the rest on foot. She had not gone far before there came on a violent pain in her stomach, with continued vomiting, and intolerable thirst, so that she stopped to drink water almost at each ditch. Her tongue, from her own account too, was considerably swelled.

After much vomiting she was somewhat relieved; but, to the time she applied to me, she had continued to vomit up every thing she took, and complained of a heat and pain in her stomach, at some times much more violent than at others. As she seemed not in much pain then, and had vomited frequently, I only advised her, whenever she was sick, to wash her stomach plentifully with camomile tea; hoping that in a little time the vomiting might be checked. The account of the death of the other woman alarmed her greatly (as they had drank out of the same cup), and on the 7th, in the evening, she was extremely ill; her stomach swelled, and was violently painful, and she could scarcely speak to be heard. On considering the story she had told me, of the man's having put sugar in the ale, and beltowed so much pains in mixing it thoroughly, it occurred to me, that the poison added might probably be corrosive sublimate, which does not easily dissolve, and that some of it having been swallowed undissolved, might remain in that state enveloped in the mucus, and attached to the

coats of the stomach; which, as it gradually dissolved, irritated, and caused heat, pain, and vomiting. In this idea, I gave her a few spoonfuls of a solution of salt of tartar, with a view to decompose the sublimate; and she had no sooner swallowed it than she was easier. A little while after she took a vomit, and I caused some blood to be taken away to guard against inflammation of the stomach: she was much better the next day, eat her dinner well, and did not vomit; but on the 9th, at night, the pain returned with great violence, and yielded, as expeditiously as before, to the solution of salt of tartar. I now first heard of there being something found in the stomach of the other woman, supposed to be sublimate; and on questioning my patient, learned that she had always been most relieved when, after several efforts, she had vomited up a small quantity of something which, as she herself expressed it, tasted like milk which had stood in a brass pan. From these concurring circumstances, I had no longer doubt of the poison being, as I had supposed it, sublimate; and from the return of the symptoms, concluded that there was still some of it retained, whose solution and action was only very gradual. After repeating the vomit, I advised her to continue constantly the solution of salt of tartar. This, however, she had neglected; and on the 11th she had a fresh attack, which yielded readily to a repetition of the same means. As her objection to the salt of tartar was its disagreeable taste, I ordered her some pills, containing each three grains of it, which (convinced of the necessity) she did not omit taking. On the 15th she was perfectly well, and so continued.

CASE III.—“On the 9th of April, 1785, at one in the morning, a ship-surgeon, in Liverpool, mixed six drams of corrosive sublimate in a tumbler glass of water, drank it, and as some remained at the bottom of the glass, he rinsed it twice with water, which he also swallowed. Something less than two drachms of the sublimate remained at the bottom of the glass; but he certainly took about half an ounce.

“He repented almost immediately of what he had done; drank plentifully of warm water; and three quarters of an hour afterwards, took three teacupsful of oil. He soon vomited: and proper assistance was expeditiously procured. A solution of salt of tartar was very judiciously exhibited, and continued during the day, when it was thought eligible to remove him to the infirmary. His sufferings were great, and aggravated by his anxious desire of life; his discharges upwards and downwards very frequent, and mixed with a good deal of blood.

“In consultation at the infirmary, the plan fixed upon and pursued was, a continuance of the solution of an alkali occasionally by the mouth, and the same thrown up forcibly in a large clyster; and, in like manner, the tinctura thebaica: neither of which, however, were long retained. For the latter, the opium in sub-

stance was substituted ; and for the alkaline salt (the next day) the calcined magnesia : for he manifested a repugnance to the solution of salt of tartar, solely on account of its nauseous taste ; and it also seemed to cause some irritation of the stomach, which was soon followed by vomiting ; disagreeable sensations, no doubt, but of little consequence, and scarcely meriting attention, where the object is of such magnitude. Nor is it at all probable, but that the same, and even greater degrees of pain and irritation, must have arisen from the mere action of the sublimate on the stomach, *in proportion as it dissolved* ; which action would be prevented and counteracted by the alkaline solution, was it retained only for a moment.

“ On a further solution of the sublimate, a fresh exhibition of the alkali becomes necessary ; and there does not seem to be any *well-grounded objection* to its use under so sore and tender a state of the stomach ; since, contrary to all reasonable expectations, in less than a week (having in thirty hours taken near $\frac{3}{4}$ v. of the alkali) he got perfectly well, and, notwithstanding some hæmorrhagy, did not feel any degree of uneasiness in the stomach or bowels.”

The following account of the good effects of alkaline salts in counteracting the poison of corrosive sublimate, appeared in the Medical and Physical Journal, communicated by Dr. Evans of Ketley.

“ April, 17, 1796, John Podmore, a healthy young man, about twenty-five years of age, the son of a farmer in this neighbourhood, had an eruption upon his skin that was suspected to be the itch ; in consequence of which he was advised by his sister to buy three pennyworth of corrosive sublimate (hydrarg. mur.) and two ounces of Glauber's salt. The sublimate was to be dissolved in water, and applied as a lotion to the parts affected, and the salts to be taken in the morning fasting. The young man being totally unacquainted with the articles he had purchased, made use of the mercury instead of the salts, putting about one half of the quantity he was possessed of into a large cupful of warm water, stirring it about for some time with a spoon, and then drank it. Fortunately for him a considerable portion of the sublimate remained undissolved in the bottom of the cup. The quantity swallowed (from what was left) I suppose to have been not less than half a drachm. After this he took a walk into the fields ; where, finding himself seized with a violent sickness, vomiting, and griping, it was with some difficulty he returned home. The family, observing him so extremely ill, were much alarmed ; which induced his mother to examine the shelf on which the salts and sublimate had been deposited, when, to her great concern, she discovered the mistake he had made ; on which I was desired to visit him as soon as possible, it being then near two hours after he had taken

the poison. The moment I was informed of the young man's unfortunate situation, two cases of the efficacy of alkaline salts, administered on a similar occasion, published in the sixth volume of the *Edinburgh Med. Com.* by Dr. Houlston, occurred to me. I immediately directed half an ounce of salt of tartar to be dissolved in eight ounces of water; of this solution he took a large table spoonful, which afforded him much relief, by abating for a short time the violent pain in his stomach; he afterwards took an emetic, which operated powerfully. Notwithstanding which, he had frequent returns of the pain, which extended through the whole course of the intestinal canal; but was as often relieved by the alkaline solution, which he took occasionally for several days. On the 18th, a purging draught was administered, and at night an opiate. This day his tongue began to swell, a cold sweat broke out all over him, accompanied with a slow and feeble pulse, a trembling of his limbs, and a total debility of the whole system. 20th, Continued nearly the same, the opiate having procured but little rest; several large pustules of a livid hue appeared upon his face and breast. 21st, A copious pytalism came on which continued for many days. The intestinal canal was affected quite to the anus, from which oozed a corrosive ichor, that excoriated the external parts, and rendered them so sore, that it was with difficulty he bore clysters of olive oil and milk to be injected, which I directed to be administered twice a-day, in order to lubricate and wash the parts from the acrimonious discharge, as well as to empty the intestines of any feces that might be retained in them. 23d, The pain of the stomach and bowels being considerably abated, I ordered him a decoction of Peruvian bark, with the addition of Huxham's tincture of the same, and chalybeate wine, to be taken three times a-day. This plan was pursued till the 29th, taking opiates every night; but they did not afford him that relief I expected, for he got but little rest until the salivation left him, which happened on the 28th. From that day his appetite began to mend, and his strength gradually returning, he discontinued his medicines.

"During the whole of his illness he was supported with milk, gruel, and chicken broth. Notwithstanding that, he was more reduced both in bulk and strength, than any patient I ever saw, in so short a space of time. Had the alkaline solution been administered immediately after the poison was taken into the stomach, there is little doubt but the decomposition of it would have been more effectual, and the patient's sufferings in consequence of it considerably alleviated."

We see, then, that with respect to mineral poisons, there is a rational ground of hope, that, by a proper management, they may be decomposed, their effects counteracted, and the danger resulting from their exhibition guarded against and prevented. With

regard to the poison of *arsenic*, however, it has been observed that the alkali is not so obviously beneficial; though, as far as we know, the exhibition of that is a means as promising as any to prevent fatal consequences.

Dr. Houlston says, "In all cases of poison, it is prudent immediately to give a solution of an alkali, followed by a vomit. If the poison be of the *mineral* kind, an alkali, either fixed or volatile, will probably decompose it, and precipitate the metal in a form nearly inoffensive. It will have this effect on the sugar or extract of lead, emetic tartar, or any metallic salt. Or if the poison be arsenic, Newman observes, *that alkalies will very plentifully dissolve it*. And if so, as it is difficultly soluble in water, a powerful vomit will then succeed, the better to discharge it. Whether *sulphur* exhibited in any form, might lessen the active properties of arsenic, is not clear. We at least know, that these two, when chemically *united*, are not poisonous. Should the poison happen to be of the vegetable class, an alkali can be of no disservice, nor interfere with the other means of remedying by evacuation; nor yet by the subsequent use of acids, so strongly insisted on by Tissot, as counteracting the effects of narcotics; since acids given together with alkaline salts, are pronounced to be attended with great success in this case by Dr. Mead and others.

"To supply the omissions of those popular writers on a subject of so much importance, might not the following directions be given? 'When symptoms of poison appear, mix a teaspoonful of any of the following articles;—salt of tartar, salt of wormwood, pearl-ash, or pot-ash, with half a pint of water; and of this let one half be given to the patient immediately, and the other in a short time afterwards.' It will sometimes give great relief, and the vomiting will cease. The latter, however, is still to be promoted; and if it does not return on drinking warm water, &c. after waiting a while, it will be proper to give a vomit of ipecacuanha; or if that is not sufficient, one still stronger. After each vomiting, a dose of this solution of salt of tartar should be given, and it may be repeated every two or three hours, especially if the pain of the stomach returns. It should be continued too in small doses for some time after the symptoms disappear. If none of these salts are at hand, a little wood ashes mixed with boiling water will answer the same end, suffering them to stand till they settle, and pouring the water clear off, or filtering through linen. By tasting it the degree of saltiness will determine if the solution be strong enough; if it be not disagreeably pungent, it may be given."

The doctor mentions an instance of a child, at Liverpool, which got at some *Jacob's-water*, an arsenical solution, sweetened, and placed there to poison flies, and drank so much as to occasion its dying the day after, convulsed.

The following case of a young woman who poisoned herself in the first month of her pregnancy, by Mr. Ogle, with an account of the appearances after death, by the late Mr. Hunter, were communicated to the society for medical and chirurgical information, by Mr. Home, in 1794.

"Mary Hunt, servant to a gentleman in Charlotte-street, Bedford-square, twenty-five years of age, had for some time shewn a partiality for one of the footmen in the same family. She became all at once exceedingly dejected, which was supposed to proceed from his neglecting her; and on Thursday, the 19th of April, at twelve o'clock at night, took half an ounce of white arsenic, and immediately afterwards drank a quart of wine; about one o'clock she had so much pain in her stomach as to be obliged to call for assistance.

"The symptoms were excruciating pain in the stomach, sickness, vomiting, excessive thirst, and a small tremulous pulse; these were followed by pain in the bowels, and several purging stools.

"She drank brandy and water, wine and water, and several quarts of plain water, to relieve the thirst, and ease the pain. Some hours after taking the arsenic she became easier, expressed a desire to be left alone, being inclined to sleep, and remained several hours in a dozing or comatose state, from which she did not recover, and died about one o'clock on Friday, thirteen hours after taking the arsenic.

"Upon inspecting the body after death, there were found the following appearances.

"In the cavity of the abdomen there was an appearance of the effects of slight inflammation on the peritoneal coat of the small intestines.

"The stomach contained a greenish fluid with a curdy substance in it, in all amounting to about twelve ounces. On the internal surface of the great curvature, near the cardia, a portion of the villous coat, about the size of a crown-piece, was partly destroyed, and of a dark red colour, with a regularly defined edge, and some of the arsenic adhering to different parts of its surface. The rest of the stomach was in a natural state. This appearance in the stomach was an effect produced by the arsenic."

There are many *acrid substances* which, though beneficial as medicines, are converted into poisons by being given largely and with a mischievous intention. Thus *cantharides*, taken internally, often occasion a discharge of blood by urine, with exquisite pain. If the dose be considerable, they seem to inflame and exulcerate the whole intestinal canal; the stools become mucous and purulent, the breath fetid and cadaverous, intense pains are felt in the lower belly, the patient faints, grows giddy, raving mad, and dies. All these terrible consequences have sometimes happened even

from a few grains. Herman relates, that he has known a quarter of a grain to inflame the kidneys, and occasion bloody urine with violent pain.

Fatal effects are often produced by the methods employed to procure abortion. But to pursue the subject of poisons through all its possibilities would be an endless talk, we shall therefore proceed to notice some of those poisons which present themselves in the shape of food, and of these the article of fish is the most important.

Cullen observes, in his *Materia Medica*, that "some kinds of fish, such as eels, salmon, herrings, and, in peculiar constitutions, muscles, or even lobsters, independently of their putrescency, give a singular irritation to the system, and, during their digestion in the stomach, occasion a considerable efflorescence on the skin, sometimes partial, at other times on the whole body; sometimes with a considerable febrile disorder, but at other times with very little."

"The cause of this deleterious quality in fish," says Dr. Thomas in an interesting paper published by the Medical Society of London, "has given rise to various conjectures. Some are inclined to think that there are two distinct varieties of the same fish, such as we observe in the sprat and cavallee; but the characteristic marks, if they do exist, are so obscure, that the oldest and most experienced fishermen are constantly deceived, and though obvious in the above fish, do not, I think, extend to any other. How far a careful and minute examination by some intelligent naturalist might tend to elucidate this matter is impossible to prejudge. The discovery would doubtless be attended with evident advantages, and the investigation, though difficult and tedious, should not be declined.

"Others impute it to copperas banks on or near which fish feed; but with what degree of reason, is extremely doubtful, as the reality of such banks in the West Indies has never yet been satisfactorily proved; and though fish of that description are frequently caught near particular parts of some islands, it is no proof in support of this opinion, as they are often taken at a great distance from the land. We should besides be led to suppose, that all kinds of fish, taken on the same banks, would prove equally hurtful, as they are all alike exposed to the same causes.

"That it arises, however, from their food, is strongly corroborated by several circumstances; but what that food is, remains yet to be discovered. It is a well-known fact that the land crab, *cancer terrestris*, when taken near manchineel trees, is found, particularly in dry seasons, at one time safe, at another poisonous, from feeding on the bark or leaves of that tree, in lieu of other nourishment. The mountain crab is likewise dangerous at particular times of the year from a similar cause. The inhabitants are

so sensible of this, that they never eat them unless they have been kept in coops a fortnight or three weeks, and purged with the physic nut leaves. A convincing proof that amphibia may acquire this noxious quality from their food, without inconvenience or danger to themselves.

“When taken off the hook, if the precaution is used, to gut and salt them immediately, they seldom or never create any disorder. The following facts evidently prove this.

“Mr. Henry Berkley, treasurer of the island of St. Kitt's, is extremely partial to the *barracuta*, and never refuses to purchase them from fishermen whom he knows, provided they gut and salt them as soon as they are taken out of the water. He has never met with an accident since he adopted this practice, which is now upwards of thirty years. A fisherman caught some yellow-bill sprats in Halfmoon Bay, and after using the above precautions of gutting, &c. threw the entrails into the sea, for fear of poisoning his favourite dog, which accompanied him in all his excursions: this happened in the morning. He carried the sprats home, and, together with his family, dined on them; in the afternoon he returned to his usual occupation of catching sprats, and observing his dog busily eating something which it had picked up in the surf, he had the curiosity to examine what it was, and found it to be the guts of the fish thrown ashore by the waves. He immediately afterwards observed his dog in great agonies, and soon after being carried home he died. The above is related from unquestionable authority, and can be confirmed by the testimony of several of the most respectable inhabitants of St. Kitt's. Another fact, equally important, happened to Mr. Duport, at Palmetto Point. This man has been a fisherman more than forty years, and employs a number of negroes in drawing seins in different parts of the island. They one day caught a great quantity of yellow-bill sprats, which, as usual, he forbade his negroes to make use of, to avoid accidents; but, contrary to his orders, they gutted a number of them, and threw the guts on a dung-heap in an enclosed yard where he kept his poultry. To his astonishment, next morning, he found a great number of them dead, but, on enquiry, none of his people were affected. Mr. Joseph Rawlins, of the same island, had a negro poisoned by sprats; on enquiring into the particulars, he was told that the fishermen who caught them, had made a hearty breakfast of them without experiencing the slightest inconvenience. The following instance shews the extreme subtlety of the poison. Mr. Thomas, of St. Kitt's, a surgeon, since deceased, was desired by one of his servants to examine some yellow-bill sprats, which had lain a few hours in the house, as they had a suspicious appearance; on examination he found a number of flies lying dead on the bodies of the fish, and on different parts of the table, others half alive were crawling away from destruction as fast as they could.

though some of the same sprats had been consumed in the morning by his servants without any bad consequences.

“Lastly, the quantity of poisoned fish has been supposed more numerous at some particular periods of the year than at others. This, however, is not confirmed by experience, for some relying too much on this circumstance, expose themselves to great danger. A negro fisherman of Dr. Stevens’ of St. Kitt’s, accustomed to eat the yellow-bill sprat when in season (as it is generally termed), and constantly escaping its poisonous effects, at length grew so confident that he imagined himself proof against the effects of any fish-poison, and one day requested from the cook the remainder of the barracuta which had poisoned a Mr. Elliot; his request was granted, he ate it, and suffered very severely for his temerity.

“This poison does not pervade indiscriminately the different classes of fish found in the West-Indian seas; but observes a regularity, which, I believe, it has never been known to deviate from, however nearly related these fish may be to one another. The black-bill sprat (*barenga minor*) of Catesby, for instance, is always wholesome, though so nearly allied to the yellow-bill, that it requires a very nice eye to discover the difference. The fish most to be dreaded are, the barracuta, yellow-bill sprat, cavallee, rock-fish, king-fish, smooth bottle-fish, and lobster.

“The barracuta (*perca major*) of Brown, is so often poisonous, that it is seldom touched, although introduced at table, and by some accounted a very delicate fish. It is a very voracious fish, and has been sometimes known to attack people who were bathing in the sea. A less species, called umbla minor, is mentioned by Sloane, who says, that according to its feeding on venomous or not venomous food, it is wholesome or poisonous to those that eat it; also noxious in some seasons of the year and in some places, and innocent in others, I suppose, according to its nourishment, by which now and then it acquires so much poison as to kill immediately.

“The yellow-bill sprat, or windward sprat, not noticed by Sloane, Catesby, or Brown, is known from the black-bill (*barenga minor*) by the minuteness of its scales, and by a yellow spot on each side of its head. It is always to be dreaded, and therefore is only purchased by the lower class of inhabitants, or by people of colour.

“The cavallee (*scamber*) of Brown. Three varieties of this fish are brought to market, the bottle-nose, amber, and green-back. The two first frequently prove poisonous, the last is always innocent.

“The *perca marina* of Catesby, or rock-fish. This fish, Catesby says, has the worst character for its poisonous quality of any other

among the Bahama Islands, but whether they are eatable from any particular places, I know not, many of these poisonous fishes being not so when caught in some places, of which the inhabitants can give a near guess, but sometimes they are miserably mistaken.

“The king-fish (*xipbias*) of Brown, derives its English name from its superior delicacy, but, notwithstanding its high reputation, proves now and then poisonous.

“The smooth bottle-fish (*ostracion glabellum*) found in Kingston harbour, Jamaica, in one instance killed in half an hour, producing general coldness, nausea, stupor, and death; by active vomits timely administered, some who had eaten it recovered. Dr. Wright attended the patients, and stated the fact to Mr. Home in his weekly return.

“The sea lobster (*astacus*) of Brown, though classed among insects, I have thought proper to mention here, as it is at times equally dangerous.

“The consequences attending this poison are, in general, very alarming, and in many instances fatal. A negro of Mrs. Deming’s, of St. Kitt’s, died in the most excruciating agonies from eating the yellow-bill sprat; another negro, on Borryau’s estate, whom Dr. Stevens attended, died from the same cause.

“Some stomachs seem to be more susceptible of the action of the poison than others, and feel the effects of it almost immediately; the symptoms in others do not appear until two, three, or four hours after the accident, and some escape their violence altogether. A party of gentlemen marooning some years ago at Friars Bay, dined on cavallec; all who partook of it were poisoned, some sooner, some later than others; and, if my memory does not fail me, two out of the number died in consequence of it, although not immediately. One gentleman, who had drank a large quantity of Madeira wine, felt no other ill effects from what he had eaten, than a slight swelling in his knees. This precaution however cannot always be depended upon, as a friend of mine was severely poisoned by a lobster, notwithstanding he had fortified his stomach with a bottle of old Madeira, and a bottle of cherry-brandy.”

The *symptoms of fish-poison* are thus described by Dr. Thomas. They are “cardialgia, nausea, severe vomiting and purging, tormina, cold sweats, fainting, and, in some, vertigo: the face in the mean time, becomes highly flushed, and the eyes inflamed, attended with a burning heat, and spasmodic twitches, which particularly affect the eyes, the sufferers often complaining that these are ready to start from their sockets. The burning which is felt in the face and eyes is extended to the palms of the hands, the tips of the fingers, and over the whole body; sometimes accompanied, and sometimes succeeded, by a miliary eruption, or by an efflo-

reſemblance reſembling the bite of a bug, but more extenſive. The pulſe, for the moſt part, is hard and frequent. This ardour of the ſkin, and a prickling in the hands and noſe when immerſed in cold water, are almoſt invariable ſymptoms of fiſh-poison, and enable the practitioner to decide with confidence on the nature of the diſeaſe.

“ The neck of the bladder, urethra, and ſphincter ani, appear to ſympathize with the ſkin, as the patients often complain of a like ardour in thoſe parts, with a difficulty of making water, ſtranguery, and afflicting tenefmus.

“ When the violence of the diſorder is ſomewhat abated, the cuticle begins to ſcale off in various parts of the body. In one patient whom I attended, a miliary effloreſcence accompanied the ardour of the ſkin, without any evident deſquamation.

“ The laſt and moſt tedious ſymptom, which may be rather conſidered as ſecondary, is an acute and ſhooting pain in the articulations of the knee, wrift, and ancles, and ſometimes in the cylindrical bones, with more or leſs ſwelling. It is diſtreſſing, at intervals, for years after every other trait of the diſorder has diſappeared, and not unfrequently attended with œdema.”

“ This,” ſays the doctor, “ is the ordinary courſe of the diſorder, collected from a variety of caſes that came under my own immediate inſpection, all of which terminated happily. But, unfortunately the iſſue is not always ſo favourable; the health of ſome who eſcaped its fatal effects, is often ſo much impaired, that a foundation is laid for a train of other evils, and a viſit to a cold climate is at laſt found neceſſary to reſtore vigour to the conſtitution.

“ The conſequences ſhould always be dreaded, and relief ought to be given immediately, as it is impoſſible to foreſee the event with any degree of certainty. Much, however, may be learned from the different ſymptoms, although they are liable to great variations, from a greater or leſs degree of irritability exiſting in the ſtomach, from the quantity taken, or from a greater degree of acrimony in the poiſon; for why ſhould it attack ſome only ſlightly, and prove fatal to others?

“ The affinity of this diſorder to cholera is ſo great, that it requires a conſiderable ſhare of practical knowledge to diſcriminate them. You muſt be led entirely by the appearance and ſenſation of the ſkin, as they are the only and ſafeſt guides, where no certain information can be collected of the food of the patient, or of the nature of the fiſh. It is of the higheſt importance to aſcertain this diſtinction, as a miſtake might endanger the life of the patient. In cholera, it is the duty of the phyſician to ſtop the progreſs of the diſorder as ſoon as he can; whereas in fiſh-poison, a diſcharge of the deleterious matter is the firſt intention of cure,

and should be promoted according to the strength of the patient."

Our attention is next directed to the cure. The author says, "In the cure of this disorder two purposes are clearly pointed out, viz. to procure a discharge of the poison as speedily as possible, and to remove or alleviate the effects that result from it. The *first* can only be affected by medicines whose operation is quick and effective, and of all those I think a preference should be given to the vitriolated zinc, which, if timely administered, is alone sufficient to obviate the dangerous tendency of the poison. But, as it is difficult to ascertain whether the whole of the poison has been removed, I consider it always most prudent to give a solution of the vitriolated natron, or some other salt, after the operation of the emetic, and continue it as long as the different circumstances point out its necessity. This method is practicable in robust constitutions, where evacuations may be carried almost to any length; but, in weak delicate habits, the vomiting and purging are so severe, and debilitate the patient so much, that you are frequently under the necessity of prescribing anodynes, before you are certain that the stomach and intestines have been freed from their noxious contents: the interval of ease they procure invigorates the system, and enables the stomach to retain such medicines as are proper to remove the poison.

"To effect the *second* intention, no positive rule can be laid down, as you are to be directed by the nature and violence of the symptoms. After due evacuations, if the symptoms of cholera still continue, which frequently happens, they should be checked by anodynes, cordials, and clysters of water gruel or starch, with or without laudanum. A gentle moisture of the skin may then be promoted by the use of mild diaphoretics; and here none answers better than the common Dover's powder, the ardour of the skin is powerfully relieved by this medicine. A liberal use of some mucilaginous drink should be recommended as long as the strangury remains. The pains of the articulations are sometimes very obstinate and yield to nothing but time. Relief may nevertheless be procured by decoctions of guaiacum and sarsaparilla, by wrapping the parts in flannel, and sometimes from the warm and sometimes from the cold bath. From the beneficial effects of old Madeira in the one instance related, I think it would not be amiss to recommend a liberal use of it to such as were under a suspicion of being poisoned, where no medicine could be procured, or where the aversion to medicines could not be overcome; but it is rather a dangerous experiment. The oil of the bignonia is strongly recommended by some, and frequently administered by negroes to people of their colour, but with what success I cannot say, as I never saw it used.

“As it is of the utmost importance to be able to distinguish a wholesome fish from one that is poisonous, it is highly necessary to be advised of the means that have been taken to discover it. When a fish is suspected to be poisonous, it is a common practice to hold a silver spoon for some time in the water in which it is boiling, and if the spoon be taken out unsoiled, the fish is reputed safe; but if the colour be in any manner changed, the fish is immediately thrown away as unwholesome. A safer and surer criterion to judge by is, to give the entrails of the fish to a dog or other animal; if, after some time, no inconvenience or apparent disorder arises from it, the fish may then be eaten with safety.”

Some say a discoloration of the intestines and blood vessels are positive signs of poison; but Dr. Thomas says, he can neither confirm nor deny this from the want of opportunities of examining these fish, which are either thrown away after their nature is known, or else eaten before they are suspected to be poisonous. “It is,” says he, “by no means a constant sign, and therefore less to be depended upon, as it may have taken place in consequence of some change in their economy, similar to some European fish. What Du Tertre says of the teeth of the barracuta is erroneous, as it was contradicted by the best information I could obtain.”

“Another opinion prevails amongst the fishermen, that fish without scales are most liable to be affected by this poison; which seems to be the result of experience, and deserves particular attention from those who mean hereafter to prosecute the enquiry, as the greater part of the fish which have been described are deficient in this respect.

“The silence of the several gentlemen who have described the disorders of warm climates, on the preceding subject, may afford room to doubt the existence of a poison in fish, and to ascribe to other causes the effects which result from it; but though unacquainted with the causes and nature of this poison, I may, without presumption, say, that the facts which have been brought forward in support of it are so strong and pointed, that no further doubt can remain on the subject. From these same facts the following inferences may be clearly drawn; that the poison lies *in the intestinal tube*, is assimilated with their food, and circulates without any detriment to the fish; that its effects are, in general, more deleterious to animals than to man; and lastly, that the longer the fish remains out of water, the more violent the poison becomes; but whether the process of putrescency, which is rapid in the West Indies, adds a greater degree of acrimony to the poison, or whether it is the consequence of transudation, must be left to be determined by future observations.”

In the 7th volume of Medical Facts and Observations, page 289, Dr. Clarke of Dominica, in a letter to Dr. Simmonds of Lou-

don, observes, "Capficum (*Cayenne pepper*) has been known, long ago, to poffefs the power of preventing or counter-acting the poisonous effects of fifh." He adds, "This fifh poifon feldom deftroys life entirely, except the deadly poifon of the *yellow billed fprat*, as it is called, which kills very fpeedily; but thofe who have eaten of the other kinds of poifonous fifh, are frequently reduced to the laft extremity by vomiting, and life is almoft extinguifhed before ftimulants can take effect."

DOLOR FACIEI; *the FACE-ACH.*

Fothergill; Observations on the ufe of Hemlock, in Medical Obferv. and Inquiries, Vol. III. &c. or in *Fothergill's* Medical and Philofophical Works; ed. *J. Elliot*. London, 1781, p. 315; of a painful affection of the face, *ibid.* p. 427; and Medical Observations and Inquiries, Vol. V. *Davidfen*; in *Duncan's* Medical Commentaries, Vol. V. 1792. *Blunt*; Med. Obferv. and Inq. Vol. V.

Rahn; Mufeum der Heilkunde; i. e. Mufeum of Medicine, Vol. I. *Aepi*; *ibid.* p. 302. *Sauter*; *ibid.* alfo *Tiffot* and *Pohlen*. *Richts*; in *Sabatier* Traité Compl. d'Anatomie, T. III. p. 452.

Lentin; firft in *Blumenbach's* Medicinifche Bibliothek; i. e. Medical Library, Vol. I. (a periodical work, that is now difcontinued); in his *Contributions to Practical Medicine* (in German), Vol. I. 1797, p. 382—398. Vol. II. 1798, p. 92, feq. *Hufeland's* Practical Journal, Vol. IX. No. I. *conf.* Medical and Phyfical Journal, Vol. III. p. 575. *Selle*; in *Neue Beitrage*, &c. i. e. New Contributions to Natural and Medical Science, Vol. I. p. 27, &c. *Vogler* *Blumenbach's* Medical Library, Vol. II. p. 506. *Thilenius*; *Medicinifche und Chirurgifche Bemerkungen*; i. e. Medical and Surgical Observations: Franckfort, 1789, p. 283. *Behmer*; in *Blumenbach's* Medic. Libr. Vol. III. p. 315—336. *Baldinger*; in his Medical Journal, Vol. II. p. 7. *Leidenfroft* and *Gunter*; in *J. G. Forfmann* Differtatio de Doloze Faciei *Fothergilli*; Duitburg, 1794, 4to. extracted in *Tode's* Medical Journal (in German), No. III. Vol. I. *Richter* in his Surgical Library, Vol. XI. p. 135, (in German.)

Degener, loc. citat. *Van Wy* in Verhandelingen uitgegeven door het Zeeuwfch Genootfchap der Wetenfchappen te Vliffingen, Dec. VII. 1782; i. e. Tranfactions of the Society at Vliffingen. Vol. VII.

André, loc. citat. SAUVAGES; *Nofologia Methôdica*, under the name of *Trifmus Dolorificus*, Clafs IV. Ord. 1, Gen. 2, Spec. 14. *Bonnard*; *Journal de Medicine*, 1778, month, July.

Lavagan : ibidem. *Thouret* ; Mémoires de la Société Royale de Médecine, à Paris, T. 1, 1776, T. 3, 1779, T. 5, 1782 and 83. Journal Encyclopédique, m. April, 1777. Gazette Salulaire, No. 73. confer. RICHTER's Chirurgical Library, Vol. II. in German. *Andry* ; Mém. de la Soc. Roy. de Médecine, T. I. 1776, T. V. 1782 and 83. *Louis* ; Gazette Salulaire, A. 1776, No. 36. *Guerin* ; Maladies des Yeux. *Pujot* ; Treatise on that disease of the face, which is named the Tic Douloureux, translated from the French into German, by Dr. Schreger, 1788. *Spielmann* ; Gazette Salulaire, 1791. *Petit* and *Laugier* ; Journal de Médecine, in July, 1793. *Watson* ; ibid. 1793, March, No. I.

This dreadful disease, which is commonly styled the *Dolor Faciæ* of Fothergill,* on account of its being supposed to have been first mentioned by that practitioner, was before known, in the year 1756, to Mr. Andre, surgeon at Paris, who accurately described it under the name of *tic*, and explained it with several observations. Mr. Siebold, however, traced the history of this disorder further back, finding that, in 1724, it had been treated by John Hartmann Degener, practitioner at Nimmegen, whose excellent observation and description of that affection is communicated in the first volume of *Acta Naturæ Curiosor.* (*de dolore quodam perraro acerboque maxillæ sinistræ partes occupante et per paroxysmos recurrente*, p. 347). This practitioner even supposes, that Lawrence Baufsch, physician at Schweinfurth in Franconia, president and founder of the Societas Naturæ Curioforum, died of this disorder in the year 1665, according to the annals of that society. The patient felt for four years a very excruciating pain in the right maxilla, sometimes growing less, and then ceasing ; but, at last, it increased to such a degree, that he became unable to speak or to swallow, and notwithstanding all possible remedies, died emaciated, and with a palsy on the left side. There existed also, Observations on this disease by Dr. Daniel Ludwig, in the year 1673.—Misc. Nat. Cur. Dec. I. Ann. III. Observ. 252, de dolore superciliari acerbissimo.

The *Dolor Faciæ* may be called analogically (otalgy, odontalgy, &c.) *presopalgy*, as it undoubtedly belongs to the topical pains without fever ; and this name seems, besides, to be congruous with respect to the seat as well as to the origin and kind of pain. The

* *Doloris Faciæ, morbi rarioris atque atrecis observationibus illustrati, adumbratio* Diatribe I. qua exercitationes clinicas in nosocomio julieo habendas indicit G. Ch. Siebold, Dr. Med. Prof. Wirceburgi, 1795, pp. 22, in 4to.—Diatribe II. qua pro capessendo in illustri inelyta et ornatissima facultate medica loco et dignitate ad orationem die xxix Jul. 1797, publice celebrandam invitatur, pp. 23, in 4to. Translated in the Med. and. Physic Journ. No. XXX.

seat of the disease has been thought to originate in the teeth, but even drawing of them proved to be of no effect. It is observed by Dr. Fothergill, that the disease generally appears about the fortieth or fiftieth year of age, a period in which people are not much subject to tooth-ach; and though several patients suffered tooth-ach at the same time, yet others were quite exempt. The *antrum Ethmoidarium* is equally assigned as the seat of the disease, but without any probability, as it seems impossible a pain so severe, and lasting for so long a time, should take place there, without producing some change, inflammation, and suppuration, which never was the case in all the instances of that painful affection, according to what we find recorded in the annals of medicine: teeth were drawn out, and an opening made into the *antrum*, without ever perceiving any matter to issue thence. The pain generally extends itself to the jaws, a circumstance which is to be ascribed to the distribution of nerves. The disease, luckily, occurs so seldom, that even physicians of the most extensive practice never had an opportunity of observing it: we find it, however, mentioned by practitioners of all nations, except the Italians. Dr. Fothergill met with sixteen instances of it; Dr. Thilenius, a German physician, saw it but twice during a most extensive practice of twenty years; Dr. Aeppli, a Swiss physician, only once in twenty-seven years. The following exhibits the literature of different nations on the above disease.

Fothergill observed, that this disorder mostly attacks women, but Degener and others saw it in men. Mr. Siebold met with three instances in the female sex, and one in a man: it seems, however, to occur more frequently in women than in men, and the proportion is about five to four. It is remarkable, that the subjects of the disease in England were mostly women, in the proportion of 1 to 14; and in Germany mostly men, in the proportion of 21 to 13. On reviewing the cases mentioned by different authors, we observe that they were for the most part confined to the period of age between the thirtieth and eightieth year; and instances of the disorder being met with at an earlier period of life have but rarely occurred. The German translator of Dr. Fothergill's works relates a case of a young lady, nineteen years of age; and also Dr. Leidenfrost a similar instance (*Defer. supra cit.*). Dr. Rahn, Prof. Weidmann of Mentz, and Prof. Siebold of Wurzburg, are the only persons who have observed this disorder in pregnant women. The patient of Prof. Weidmann was attacked by the pain a month before her delivery: evacuants were fruitlessly employed, but she was cured by opium and bark. Dr. Siebold's case is very remarkable, on account of the pain ceasing entirely during pregnancy, a circumstance that seems to prove the great power which the body enjoys in this state, of resisting several diseases, a remark already made by Hippocrates (*de internis affectionibus*, cap. 53, ed. chart. t. viii. p. 677), who tells us that a *dolor rheumaticus* disap-

peared during the period of pregnancy, which, however, recurred twenty days after the delivery. Dr. Sauter saw this painful affection disappear during a putrid fever, and Dr. Selle in an intermittent fever, in both which cases it returned after the fevers were cured. It seems not improbable, but that this disorder may be endemical, and even epidemical; at least the disease has not been more frequently observed than at Claußthal, the capital of the Hercynian mountains; and in the mountainous country of Salzburg, it is not at all rare. Mr. Andre remarks, that in a very short time he met with eight or ten cases of this disorder, whereas he had not a single one afterwards during a period of twenty-seven years.

This affection seems not to be peculiar to a particular temper and habit of body, but attacks people of very different constitutions suddenly and unexpectedly: its duration is extremely long, as it may last for many years without doing any evident harm to the whole constitution, or without terminating fatally in an immediate manner. A woman suffered this painful affection from her nineteenth year to her eightieth, and got rid of it but shortly before she died. In other cases, however, the disorder emaciates and destroys the body, particularly for want of rest: the diseased side of the face is frequently disfigured, and persons subject to this affection receive, as it were, a double profile, of which Prof. Baldinger relates a curious instance in his Medical Journal, volume ii. No. 7.

Although many symptoms of this disorder are of the spasmodic kind, yet we have more reason to think it to belong to the class of convulsive disorders, and it is therefore erroneously called *trismus dolorificus*, after Sauvages and Pugol, because the vehement contractions do not occur in every patient, and may, moreover, be rather considered as *conamina naturee medicatrix*, and efforts by which the patients endeavour to relieve themselves from pain, for which purpose they likewise rub the part with much vehemence. A difficulty of speech and of swallowing are observed in some cases, probably from the distortions of the muscular fibres that are subservient to this purpose. A considerable salivation came on in another instance, where the patient became almost hectic; but Mr. Siebold attended a patient whose salival excretion was entirely suppressed; another subject of that disorder had a very much swollen *glandula Warthoni*, from which a foetid and purulent matter issued. The eyes remain sometimes dry, and it is not always that the pain forces out tears; sometimes they become red and humid. In some patients a redness and heat of the affected part precedes the paroxysm of pain, of which phenomenon a curious instance is related by Dr. Rahn, where the heat was so intense that it could be felt at some distance. Other symptoms frequently to be remarked in patients of this kind are, an intumesc-

cence of the belly, a torpor of the intestinal canal, and an obstinate costiveness, which are probably owing to a spasm of the *nervus sympathicus magnus*, that is intimately connected by anastomosis with the fifth pair, an opinion which agrees also somewhat with analogy, as we do not rarely observe, that if the cheeks, or the cheek-bones, are any way affected, the liver is also diseased: those symptoms ought, therefore, to be rather considered as merely secondary, and arising *per consensum*, than as the *causa primaria* of the disease. It has been observed in one case by Dr. Lentin, that when the belly began to swell, the pain soon after disappeared; and in another case it was greatly diminished by it, which symptom seems to prove that the morbid matter is deposited on the intestines: it deserves, however, to be ascertained by further observations. It is remarkable, that in a case of Dr. Siebold, the patient had a particular relish for sweet things, which that gentleman is inclined to ascribe to a depravation of taste, occasioned by the affection of the neighbouring nerves, or to an obstruction of the liver, in which this symptom sometimes occurs. The pulse was often full, slow, and soft, during the paroxysm, and at other times it decreased ten beats at every return of the pain.

The seat of the pain has been observed,

1. *In some single part of the face*, viz. at the inner *canthus* of the eye, Fothergill; in the *orbita*, the same; at the *supercilia* of the right eye, Pugol; in the jaw-bone, Fothergill; in the joint of the jaws, Selle, Pugol; in the *maxilla inferior*, at the passage of the *nervus inframaxillaris*, Lentin; in the *ossa temporum*, Fothergill; in the *nervus infraorbitalis*, Albinus and Van Wy; in the *ala nasi*, Vogler, Thouret; at the margin of the tongue, Lentin.
2. *In one half of the face*, Fothergill.
3. *In both cheeks*, Pugol.
4. *In both sides of the maxilla inferior*, at the exit of the nerve.
5. *In the whole head and face*, Lentin.
6. *In one foot*, Lentin. (See Med. and Phys. Journal, vol. ii. 575.)

The head and face are particularly exposed to this painful affection, on account of the quantity of nervous fibres that everywhere spread over the surface of the head. The pain essentially differs from any other that occurs in the various parts of the human body, though it may, in some measure, be compared with the *dolor ischiadicus* of Coturni. Dr. Lentin derives its origin from the *medulla oblongata*; and Prof. Siebold likewise thinks it may originate in a part remote from the affected place, in the *ganglion Gasseri*; others have derived it from the bones; but we still want anatomical observations for ascertaining the proper source of the pain.

Remote causes.] The *cause prædisponentes* of the disorder appear to be, 1. Violent blows and contusions of the above parts, Andre. 2. Cicatrices, Lentin. 3. Preceding tooth-ach. 4. Too great

tenderness of the skin; but the disorder occurred in persons whose skin was by no means to be called tender or soft. 5. Congestions towards the head.

Internal causes.] 1. Cancerous acrimony. Dr. Fothergill first proposed this opinion, whence it has been called by some authors, the *cancerous rheumatism*. The cancerous nature of the disease seems to be confirmed by the following arguments: 1. There is no other cause to be discovered, but that it is owing to a cancerous poison. 2. It most frequently occurs in women, who are particularly disposed to cancers. 3. It generally appeared at the period of the ceasing menstruation, or when they were past the time of menstruation, where a particular tendency to cancer takes place. 4. The kind is exceeding similar to that occasioned by a cancer. 5. Both disorders have much analogy in their preceding symptoms. 6. Four women suffering this affection, had the *scirrhus mammarum* previously. 7. The effect of hemlock in this disease, which is likewise much praised in cancers.

Adverse arguments.] 1. The disease is not at all uncommon in men, where cancerous acrimony could not be traced as well as in many women. 2. Menstruation did not always cease in some patients, but they became even pregnant during the disease. 3. The cancerous poison easily attacks glandular parts; but we seldom find them altered, indurated, or painful in the neighbourhood of the pain. 4. There is no instance of the Dolor Faciei having terminated in a cancer of the lips or of the cheek. If it did, however, arise from a cancerous acrimony, it should be more frequently observed in men than women, because the *cancer labiorum* is oftener observed in the male sex. 5. The parts disposed to cancers have been frequently irritated by the persons who had the Dolor Faciei, without ever producing such an affection. 6. It is not probable that the cancerous acrimony should remain so long at a place so sensible, without manifesting itself in a general way.

These arguments are indeed of some weight, to make us believe that a cancerous poison is by no means the only cause of that affection, nay, that it is not even to be considered as a chief cause of it.

2. *Arthritic matter.* Almost all the authors who have treated on this subject, agree in assigning this as the proximate cause of that disorder, but particularly Dr. Leidenfrost. Dr. Degener is likewise of this opinion, having observed at the affected place a tumor similar to that in the joints of gouty people. Dr. Seibold saw, in a patient suffering the most violent pains at the *supercilia*, a node perfectly like that of arthritic limbs; and Dr. Ludwig fairly tells us, that the patients suffering this disorder became gouty soon after. The disease seems to have an arthritic origin in the cases related by Dr. Bochner and Lavagan, who found the pain disappear when the usual arthritic paroxysms returned.

3. *Exanthematous acrimony.* Exanthemata have been observed in this disease either in the face itself or in some other part of the body. Mr. Andre observed miliary eruptions in the face, upon the disappearance of which the pain began to cease; but when they broke out again, the pain recurred with the former violence. Bonnard and Legavan relate instances of herpetic eruptions on the arm having preceded the disorder; and the German translator of Dr. Fothergill's works saw it appear after a retrograde itch: the pain discontinued when the itch broke out again, but as soon as it was removed by proper remedies, the pain immediately returned; and the disease lasted in this way from the nineteenth year of age to the twenty-seventh.

4. *Scrophulous acrimony.* Menouret and Selle, loc. cit. assign this as a cause of the disease in two instances.

5. *Cartarrhous acrimony.* Vogler and Pujol, loc. cit.

6. *Rheumatic matter.* It is not improbable that this is a most frequent cause of that painful affection, which we find likewise confirmed by the authority of experience and observation.

7. *Venereal poison.* M. Seibold is not inclined to admit this as a cause of the above disease, because the venereal pain is always severer in the night than in the day, without intermissions, and seems to be more seated in the bones than in the muscular and nervous parts. We have, besides, no observation of the venereal poison being assigned as the cause of that pain, if we except Mr. Waton. (*Journal de Medicine*, 1793, month of March.) It has been, however, observed, that the disease was successfully treated with mercurials; but this can by no means serve as an argument for the venereal nature of the disorder.

8. *Preceding serous profluvia suppressed.* Dr. Lentin relates a case in which a purulent salivation preceded the pain, by the appearance of which, the paroxysm of the pain became less vehement and shorter: in another case the pain succeeded a running of the ears; and Dr. Thilenius saw a patient who had a kind of gonorrhœa previously to the pain, which began to run again as soon as the pain had ceased.

Van Swieten (*Commentar. in Aphorism. Boerhaav. §. 757*) and Davidson (*loc. citat.*) have observed a pain in the face, similar to an ague, which, however, essentially differs, according to Dr. Fothergill, from the disorder we are speaking of. The patient of Van Swieten had a very severe hemicrania, lasting every day for eight hours, which, after this time, abated by degrees. At the first attack the pain appeared in the place where the branch of the fifth pair issues from the foramen supraorbitale: in another case a topical fibrile pulse was remarked at the affected place: the disease was cured by the bark. The typical character of this pain, and the termination of its paroxysm, with a strong perspiration, sufficiently distinguishes it from the true Dolor Faciæ.

CASE I. A country woman, near forty, of a thin habit, had been seized with a very violent and unusual pain affecting the *canthus* of the mouth, when she was stooping to cut grass. Having been afflicted with it for nearly a month, she was so much relieved by topical venesection, and leeches applied behind the ears, that she could attend to her usual business till the next spring, but the pain never wholly went off. About this time, when she felt herself big with child, the pain returned with greater violence than ever; she had several teeth drawn out, but to no purpose. However, when a few months of her pregnancy were elapsed, the pain ceased entirely, and she was luckily delivered of a healthy boy. Four months after the lying-in, the pain attacked her for the third time with the utmost violence, and continued in this way till she came under the care of Mr. Siebold. Her strength and health were much impaired, and she had been treated during the whole time with gummi guaiacum, aconitum, and linimentum volatile, but without the least success. The seat of the pain was not far from the right angle of the mouth, and confined to so small a spot, that it could be covered with the top of a finger, though sometimes it reached down to the *maxilla inferior*. Notwithstanding this, the spot was not at all changed, but perfectly similar to the other side; the pressure with a finger caused no pain, and only the glands of the cheek were a little swollen. At the edge of the under lip, not far from the affected place, she had a small pea-like soft tumor, of a blueish colour, in which, however, she felt not the least pain; small ulcerations were, besides, perceived at the inner side of the lips, most probably occasioned by the teeth biting the place during the paroxysm: the molar teeth were, for the most part, wanting. The pain never returned at a certain time, and lasted sometimes only a few minutes; but at another time, day and night, with equal violence, so that the patient could not sleep for nearly three months. Speaking or chewing would immediately excite the pain. The mouth became dry during the paroxysm, and likewise the nose, and the eyes began to shed tears as soon as the vehemence of the paroxysm was over: the patient endeavoured to mitigate the violence of the pain by pressing the tongue against the affected place, by rubbing it with linen, and by contortions of the mouth and face. The taste remained unaltered, except that she seemed now to like sweet things better than sour and salt victuals, of which she had been very fond before: she became more costive when the disease got worse. Her abdomen was sometimes swelled, but without any pain: the urine of a pale colour. In her younger years she had been much subject to tooth-ach and swellings of the cheeks. The plan adopted for her cure was the following, viz. milk diet, with soft eggs, and the following medicine, which she commenced on the 11th of October, viz. ℞. *Extracti cicutæ*, drachm ij. *Pulv. herb.*

cicuta 3℔. *M. F. pill. pond. gr. iij.* Take four times a-day, four pills. *R.* Decoct. cort. Peruviani unc. viij. gum-arabic, dr. iij. syrup de althæa unc. j. Misce. Take, every three hours, half a teacupful. As the pains, however, increased, and the pulse became full and tense, she discontinued the bark.

12th. The night very restless and painful; her pulse is full and hard; skin soft and moist; no stool since three days, on which account she took one drachm and a half of sal polychrestum.

13th. A hard stool; continued the pills, and a decoction of hemlock was ordered to be kept in the mouth for some time.

14th. Another dose of the salt for the costiveness, and every two hours three pills.

15th. A tolerable night; a little sleep; gentle evacuation of pituitous matter after administering an enema.

16th. The pain continued, on which account an emplastr. de cicut. was applied.

19th. The pain had considerably diminished, and even ceased for three hours; costiveness; increased the dose of the pills to one more; considerable abatement of the pain towards the evening.

20th. She had slept very quietly till midnight.

21st. Some pain when she began to speak; the ulcerations in the mouth, above mentioned, healed, skin moist; pulse frequent without being tense or hard; five pills at a time. She continued in this way the *cicuta* and the milk diet, till she was attacked, November 14, with a febrile paroxysm, accompanied with head-ach, vertigo, congestions of blood towards the head, and great anxiety: She perspired at the same time so much, that she was obliged to change her linen several times in the night. These symptoms, however, were removed within four days, by blisters and proper evacuants; but instead of them an abscess arose at the upper arm, attended with a copious suppuration; after which she felt so much relief, that she omitted rubbing the affected place; was able to speak slowly, and to chew without exciting the pain.

December 13. From this date to the 21st of January she took twice, daily, one scruple of the powder of valerian, which did her much good, the pains abating more and more of their violence, so that it was now thought proper to leave the rest to Nature. On January the 25th, however, some severe paroxysms of the pain returning, she was ordered to rub in a mercurial ointment twice a-day, which being continued for some days, the pain began to cease, and she felt nothing of it for two days, which continued so till she was dismissed, about the middle of February. The abscess had healed, but it was thought proper to make an issue near the place. Menstruation had not appeared after the last pregnancy.

CASE II. The patient was a woman fifty years of age, of a

robust habit, whose menstruation had ceased for twelve years. As a cook, she had been much exposed to the heat of the fire; her face was rather tender, but the skin relaxed. The pain first attacked her when she was washing, and rubbing her face with a linen handkerchief; it came so sudden, and with such violence, that she screamed. It continued thus, day and night, for a whole year, but it never prevented her from sleep: the pain extended itself over the whole right side, running down the temples and cheeks, and she felt likewise a singular sensation on the forehead of that side (*afflatio susurrus*). She could open neither the lips nor the jaws, without exciting the most violent pains; but a considerable pressure on the gums, or the external parts, did not produce the pain. She had suffered much tooth-ach from her younger years, on which account she had all the teeth of the upper jaw drawn out. Several years previous to her being seized with the tooth-ach, she was attacked with severe pains in the joints of the fingers, which she supposed to have ceased by venæsection. Four years ago a particular eruption arose on the right arm, similar to miliaria, and a year after, she had been seized with severe pains in the joints of the foot; the eruption appeared again a short time before the Dolor Faciei came on. These painful affections in the joints, and the miliary eruptions, seem to prove affinity of this Dolor Faciei with the gout, particularly as we know, by the observations of Burserius and Strack, that topical miliary exanthemata are frequently owing to arthritic matter.

CASE III. A gentleman, of a full habit and strong make, much subject to colds, had the misfortune of running his forehead against a tree, which immediately excited the Dolor Faciei, that lasted sixteen years, extending to the nose and down the cheeks. The pain was described by the patient as stinging, sometimes as pinching: the affected side was somewhat decayed and emaciated. Though the patient had never had the tooth-ach, yet he had some teeth drawn out, but without any effect. Moving the lips would immediately excite the pain; and, likewise, the least draught of air frequently brought it on. A pressure on the nervus infraorbitalis, at its exitus, would prevent the pain from extending itself over the face. After some time, during which he used the *Portland* powder, he experienced a considerable senselessness in his hands, and sometimes an insupportable burning in the soles of his feet. This case will be more fully described in future.

We shall next add a case, to the particulars of which the EDITOR of this work can bear testimony.

CASE IV. The patient was a grocer in London; tall and rather bulky in person; about the middle age; of a lax fibre; a married man; and through the preceding periods of his life had been subject to no particular malady. Having an incisor tooth of the upper jaw, which was decayed and inconvenient to him, he

applied to a dentist, who advised him not to have the stump extracted, but to have an artificial tooth inserted in the vacancy. Unfortunately the patient consented, and the operations of the dentist commenced in the following way:—He filed the remaining portion of the tooth as close as possible to the alveolar process, and having prepared an ivory tooth, into the superior part of which was inserted a screw, whose worm extended upwards to the extremity of the wire, the living root of the tooth was pierced, and the artificial tooth annexed to it by means of the screw. Within no long time after, considerable uneasiness in the part began to take place, which was patiently borne, on the supposition of its being temporary. Severe darting pains, however, succeeded, and these increased from week to week in such a manner, affecting the upper lip and side of the nose chiefly, that, swayed by arguments much more powerful than those which had induced him to listen to the dentist's proposal, he had the artificial tooth and root of the living one taken out, and soon afterwards the teeth immediately adjoining on each side; but little or no relief was obtained. The nervous substance of the original tooth, it is probable, having been injured by the screw, the nerve connected with it seemed to have acquired a morbid disposition not now to be overcome by a removal of the cause; and from this period the unfortunate sufferer was doomed to a scene of misery, shocking to contemplate, and of which the following are the particulars in concise and general terms. The mode of attack at the earlier periods of the disorder are not remembered; but, for some years, the complaint occurred only on particular occasions, and consisted of violent but instantaneous convulsive motions of the nerve, which he called "*shocks*." These succeeded each other at intervals of ten or fifteen minutes, sometimes much longer, and the *acuteness* of them he described to be so intense, that if they had not been momentary they could not have been endured. He had intervals of perfect ease, however, of some weeks, or even months, if the weather was mild, and nothing else affected his health; but cold, moist weather, particularly with an easterly wind, generally brought on the complaint. During the latter periods of the disease, all these evils were aggravated; the intervals between the attacks were shorter, the extension of the pain more considerable, so as to reach the eyeball, which, at each shock, literally *turned in its orbit*; violent sweats occurred when the disease was present; and, on its subsiding, there was extreme debility and a lowness of spirits, till at length the scene was closed by his death, in the year 1788, *no medicine having done him the least service.*



W. W. Hall's portable pneumatic apparatus.

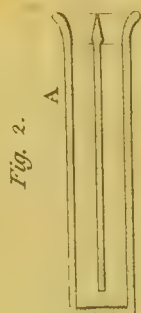


Fig. 2.



Fig. 1.



Fig. 4.

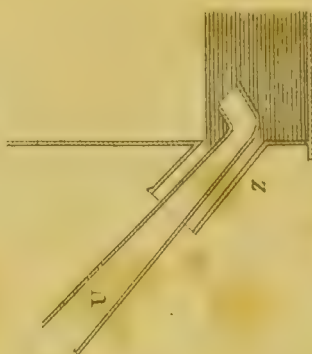


Fig. 3.



APPENDIX.

ON THE USE OF

FACTITIOUS AIRS

IN

MEDICINE.

IN our remarks on PHTHISIS PULMONALIS, we thought ourselves imperiously called upon to notice a mode of treating affections of the lungs, and of the system connected with them, by a remedy well known to have powerful effects on both. By those who rashly impugn this mode of treating diseases, we shall perhaps be thought to have already dwelt too long on it; and those who, on the other hand, are sanguine in their expectations from a continuance of the practice, will be inclined to censure us for having said too little; and particularly for having failed to notice the good effects of the pneumatic treatment in palsy, epilepsy, asthma, chlorosis, hysteria, typhus, dyspepsia, leprosy, and some chirurgical complaints, of which the evidence of different medical gentlemen has been procured. We have only one reply to make to the objectors of both classes, and that is, that speculation is not our business, but rather a statement of received opinions, and of such new facts as seem likely to influence them in future. Guided by these motives, and by a determination not *fully* to adopt any thing that experience has not yet sanctioned as a rule of practice, we have endeavoured equally to avoid the extremes of caution and of confidence in this new and singularly ingenious extension of the healing art. Accordingly we refer to Dr. Beddoes's publications for accounts of the success of the *pneumatic process* in the diseases last mentioned, and content ourselves with describing here an *apparatus* invented by Mr. Watt, by means of which the practitioners of medicine may, with great convenience, engage in those experiments which are yet wanting to illustrate the subject.

Description of a portable Pneumatic Apparatus.

Persons who have not occasion for large quantities of factitious airs, especially invalids while upon a journey, will be enabled, by means of this apparatus, to prepare them readily in any situation where they can command a common parlour or kitchen fire.

Practitioners in medicine may also, by means of it, make trial of this new branch of their art, at a moderate expence; but it ought not to be supposed that it can supply the quantities of these airs that some cases require, and still less, that by means of it a number of patients should be supplied.

As oxygen and inflammable airs ought not to be prepared in the same fire-tube, the apparatus is provided with one for each of these species of air. The fire-tube for oxygen air, is made somewhat like a pocket liquor-flask, the flattened form of which permits it to enter between the bars of a common grate. Its dimensions enable it to contain about a pound of powdered manganese, which will generally produce half a cubic foot, or three gallons of air, at one operation.

The figure of this fire-tube is delineated in the annexed plate, fig. 1, A, and its cross section in its widest part at B.

The fire-tube for preparing hydro-carbonate air, is delineated at A, fig. 2, and its transverse section at B. It consists of two parallel hollow cylinders united together, each open at one end, and communicating with one another at the bottom or shut end. The water-pipe is adapted to the mouth of one of these hollow cylinders, and the conducting pipe, by which the air issues, is adapted to the mouth of the other cylinder; so that the water, when converted into steam by the heat of the tube, must pass through and among the whole matter contained in both of them, before it can make its exit.

This fire-tube (C) with its water-pipe (F) and conducting-pipe (D), together with the air-holder, are represented in their proper positions when in use, at fig. 3. It was judged unnecessary to give a representation of the oxygene fire-tube when in use, as such representation would differ in nothing from that given, excepting in the absence of the water-pipe, which is not needed in preparing oxygene air.

One joint of the conducting-pipe D, is made partly of hammered iron, and the others of tin-plate, japanned. In order to avoid too great nicety in adjusting the place of the air-holder, a short flexible tube is interposed betwixt two of the four pieces, of which, for convenience of carriage, the pipe is composed.

Either of the fire-tubes, when applied to use, being previously charged with the proper material, is to be introduced between two of the bars of the fire-grate; or, if none of the interstices are wide

enough, it may be laid above the upper bar, and the coals heaped over it. If the grate is not deep enough to permit the fire-tube to enter far enough into it, when placed at right angles to the bars, it may be put in obliquely; from which the further advantage will be derived, that the air-holder, not standing directly before the fire, may be more easily screened from its rays.

The lower end of the conducting-pipe turns up a little, and is to be inserted in the pipe *z* of the air-holder, in the manner directed for the simplified apparatus.

It is proper, before any operation is commenced, to adjust the height of the support of the air-holder, and its place in the tub or pail, which is to receive the water; otherwise, if the fire-tube heats quickly, some of the air will be lost before these matters can be adjusted. In defect of a stool, bricks or short pieces of board may be used as a support for the air-holder; but, where the apparatus is used at home, a stool will be found most convenient.

To prepare OXYGENE AIR, fill the fire-tube (of fig. 1) with manganese in coarse powder, up to the narrow part of its neck, lute the end-piece *E* into the fire-tube, and introduce the tube into the fire, lute the iron part of the conducting-pipe into the end-piece, and, when the heat has hardened the lute, apply the other parts of the conducting-pipe, previously luted to one another. The air-holder being filled with water, and set upon its stool in the tub or pail, uncork the pipe *z*, advance the air-holder, and insert the end of the pipe *D* into *z*. The operation will then go on as has been said in the description of the simplified apparatus. When the oxygene air has displaced the water, and filled the air-holder, the fire-tube should be immediately withdrawn from the fire, to prevent the needless calcination of that tube. If the joints have been well luted, it may be pulled out by taking hold of the iron part of the conducting-pipe, by means of a cloth, to prevent burning the hands.

The end piece sometimes sticks very fast in the fire-tube; it may be loosened by striking it gently sideways with a small hammer, upon the bead which is formed round its outer end. Violent blows do not answer the end, and are apt to damage the end-piece.

To prepare HYDRO-CARBONATE AIR, fill both the cylinders of the fire-tube (fig. 2) with small bits of charcoal, none of them exceeding a quarter of an inch tube; insert the water-pipe into the mouth of one of the cylinders, and the end-piece of the conducting-pipe *D* into the mouth of the other, luting them properly; place the fire-tube in the fire-grate, and when the heat has hardened the lute, proceed to the adjustment of the remainder of the apparatus, as has been directed.

When the fire-tube has become perfectly red hot, admit water by the water-pipe, pretty freely, in order to expel any noxious matter contained in the charcoal, and suffer any air which is thus

produced to escape. When this part of the operation has been continued for five or ten minutes, restrain the water, and bring the air-holder into its place. With a proper degree of heat and due exhibition of water, a three-gallon air-holder may be filled in half an hour, without any steam passing into the conducting-pipe, which is known by the tin parts not becoming hot.

To prevent the water in the cup from being heated by the fire, it is necessary to interpose a fire-shovel, or something similar, to screen the cup from its rays. If the water is suffered to boil in the cup; or in the perpendicular part of the water-pipe, none will enter the fire-tube; therefore it is also proper not to fix that part of the water-pipe in its place till all the rest of the apparatus is adjusted. The air-holder may be screened from the heat by a sheet of brown paper.

The hydro-carbonate fire-tube is made double, that the water may pass through a greater length of heated charcoal, and may act more immediately upon it, and less upon the iron; for if the water were transmitted slowly into a red-hot pipe, it would act upon the iron, and produce hydrogen air before it reached the charcoal; and it appears from experiment, that the hydrogen dissolves none of the charcoal in its passage through it. This has sometimes happened in making hydro-carbonate in the alembic of the large apparatus, and renders the fire-tubes preferable for that purpose.

Mr. Watt adds the following *caution*. Though common stove grates do not generally produce too much heat for this purpose, yet with some sorts of coal, and in particular circumstances that may happen, and if not guarded against, the fire-tube may be melted or spoiled. A moderate red heat is sufficient for producing either the oxygen or hydro-carbonate air.

The AIR-HOLDERS proper for this apparatus, are two of three gallons each, or one of that size, and two of a gallon and a half each. The latter will be found convenient for carriage in a post-chaise.

Method of using the Apparatus.

1. *Hydro-carbonate air.* This process being more complicated than that for making oxygen air, is first described.

Put one of the iron rings which serve to fill up the openings in the sides of the furnace, upon the neck or small part of that end of the fire-tube which you destine for the water-pipe. Anoint the conical part of the end-piece belonging to it with some of the fire-lute. Insert the end-piece into the opening of the fire-tube; press it in, twisting it a little round; then give it a gentle blow with a piece of wood, or a small hammer, to force out the superfluous lute, which stroke up round the joint. Raise the tube upright upon that end-piece, and put into it first some largish bits of char-

coal, to avoid choking the end-piece; then, by the help of a wide funnel, put in the small charcoal, till the tube is quite full up to the other neck; striking the tube on the sides from time to time, to make the charcoal subside. Stop the open end with the iron plug, or a large cork, and pass the fire-tube through the holes in the furnace made to receive it; put the other iron ring upon the other neck, so as to fill the hole in the furnace on that side; take out the plug, and turn the tube round, till the bent part of the end-piece for the water-pipe stands upright. Then, having luted the end of the conducting-pipe into the other end-piece, anoint the conical part of that end-piece with fire-lute, and put it into its place in the fire-tube, as has been directed for the other; taking care that the conducting-pipe lie at the proper inclination to the horizon, as shewn in the plate. When the water-pipe stands perpendicular, the inclination of the conducting pipe will be in that part governed by the height of the support of the air-holder, which, with the place of that vessel in the tub, should be regulated before you fill the fire-tube. The lower end of the water-pipe should now be anointed with lute, and twisted into its socket in the end-piece. The wire should be screwed quite down, a little water put in the cup, and the whole left at rest until the fire-tube is red hot. The process is then to be managed as in the foregoing directions for obtaining *hydro-carbonate air* *.

To extinguish the fire after the operation, shut the ash-pit door and the air-register, and lay an iron plate upon the mouth of the furnace; the fire will then be soon extinguished, without damage to the fire-tube.

2. *Ferric Hydrogene*, and also *carbonic acid gas*, from chalk, are to be managed exactly in the same manner, only that, especially in the latter, the heat must be somewhat greater than is necessary for charcoal, say a full red heat, and the chalk broken into bits not exceeding one-third of an inch square.

In all these processes care must be taken that the fire-tube be quite filled with the material from which the air is to be produced; otherwise the steam will pass over without suffering or causing any decomposition.

By mixing about one-sixth in bulk of cast-iron turnings or borings with the charcoal, you will be more certain of obtaining air which has the power of causing vertigo; and by mixing about one-fourth in bulk of fresh slaked lime with the charcoal, the air produced will not cause vertigo. This air we call *pure hydro-carbonate*, the medicinal powers of which are not yet ascertained.

* In the preparation of hydro-carbonate air, no water should be admitted until the fire-tube has been for some time red hot. It is also found preferable to reduce the charcoal to small bits, or to a coarse powder; and in the portable apparatus to change the charcoal, putting in fresh at every operation; otherwise air will be produced which has not the power of causing vertigo.

3. *Zincic, or Ferric Hydrogene*, may be obtained by mixing about two ounces of granulated zinc, or the same quantity of iron turnings, with a pound of recently flaked lime in the oxygene fire-tube, and applying heat without water, as for oxygene*.

4. *Oxygene air*, is prepared according to the directions already given. Great care should be taken that no bits of coals, charcoal, or other combustible matter, be mixed with the manganese; otherwise such mixture would cause the production of a very pungent fixed air, which would be deleterious in cases where oxygene is proper. Manganese may be examined for its contents in lead or copper, by dissolving it by heat in the muriatic acid diluted; the lead will remain in the form of a whitish calx, and the copper will be made sensible by the addition of volatile alkali turning the solution green. Manganese calcined in close vessels, with charcoal, becomes green; which has led some people into the error of supposing it to contain copper; whereas calces of copper heated red hot become red. Oxygene air should be kept in the air-holder for twelve hours, that it may deposit the manganese which comes over with it, before it is used.

To transfer the factitious air from the air-holders into the bags. All the pipes of the air-holder containing the air being corked, the short pipe U is to be uncorked, and the nozzle or faucet of the bag, wrapped round with a slip of soft rag, wetted, and tied on by a small thread, is to be forced *tight* into that pipe. Then, and not before, uncork the centre-pipe K, place the funnel in K, and pour in a measure of water, equal to the quantity of air wanted for a dose, holding up the bag with your hand, that the air may meet with no resistance, the desired quantity will be transferred into the bag. Having replaced the cork in K, shut the orifice of the faucet, by putting your thumb upon it, on the outside of the bag, remove the faucet from the pipe U, and cork that pipe †.

The bag is to be filled with common air, by inserting the faucet into the nozzle of the common bellows, to be had with the apparatus, and blowing with them till the bag is about half full; then it should be gently clapped on the sides, in order to mix the common and factitious airs. After which it is to be blown completely full; and the faucet being corked or stopped with the finger, it is to be removed to the place where it is to be used.

It is a bad practice to put the dose of factitious air into the bag, and send it in that state to the patient at a distance, to be there

* Slaked quick lime may be kept for any length of time quite fresh, or caustic, by preserving it in a well-corked glass bottle.

† The slip of rag should be very neatly wrapped round the faucet, and always wetted at every time of using; otherwise the air may escape by the side of it, instead of entering the bag; and the bag should always be held up by the hand, and kept from such folds as might impede the entrance of the air. When the bag is clapped on the sides, the faucet should be shut by the finger.

filled with common air: the factitious air either escapes, or may be contaminated by the bag, so that little effect may be produced. The air-holder appropriated to the patient should stand in his apartment unless he resorts to the practitioner's house. Air-holders should be appropriated to each species of air, and should be properly labelled to prevent mistakes. They should be kept in a cool place of an equal temperature, and the corks should be good and tight. If sent to a distance, they should be packed in a locked basket or box, to prevent injuries.

Inhalation of the air is performed by taking the point of the faucet between the lips, inhaling from the bag through the mouth, and expelling the air from the lungs through the nostrils; which operation most patients readily acquire a habit of performing with ease: but those who cannot do it, may use the mouth-piece, commonly employed. It should be recommended to patients not to hurry themselves, to inhale gently, and to retain the air a little in their lungs before they expel it. It is also proper, especially in the use of the hydro-carbonate, for the patient to rest a little at every five or six inhalations, to observe whether any vertigo takes place: and even in using oxygene, an unexperienced patient should rest to avoid fatiguing the lungs, which of itself may cause some giddiness.

Doses of the factitious airs. Where symptoms do not decidedly indicate larger doses, it is prudent to begin with a pint of oxygene air, in a bagful or half a bagful of common air, that is to say, diluted with from 20 to 40 times its bulk of common air, and gradually to increase the dose as symptoms direct; observing always to dilute with at least 20 times the quantity of common air.

This dose may be thought too small to produce sensible effects; but it will frequently produce very considerable ones; and in some cases, where the system is very irritable, may prove an over-dose.

Patients with a slow firm pulse, will generally bear large doses; but those with slow feeble pulses, are generally more readily affected by it. In diseases occasioned by want of irritability, very large quantities have been given before any effect was produced, even several cubic feet per day; but, as in such cases, the oxygene was given little diluted or pure, it appears probable that more was given than would have been necessary, had it been sufficiently diluted; for, if pure oxygene air is inhaled, it will be found, upon its emission from the lungs, to be still highly dephlogisticated; but, when diluted, it has more time to act, and more of it is probably absorbed.

The hydro-carbonate having powerful effects in causing vertigo, ought always to be administered cautiously: where there is much debility, it may be prudent to begin with half a pint of this air, diluted with 10 or 20 pints of common air, to be increased in the subsequent doses, till each dose shall cause vertigo: how far

the latter effect should be pushed, must depend upon the situation of the patient, and the nature of the disease. Patients with a *strong* quick pulse, can in general bear large doses of this air, and its immediate effect is rendering the pulse slower; whereas in patients with quick *weak* pulse, it generally renders the pulse quicker and weaker immediately after the inhalation; though its subsequent effect is to render the pulse slower and stronger, if it takes effect upon the disease.

It has seldom been found necessary to give more of this air than from two to three quarts per day, until the patients have been long habituated to the use of it; and in all cases where the air has been very lately made, it is proper to give only half the usual dose; but, after four or five days' keeping, it seems to suffer little further change. The oxygene air keeps good for months, if the corks are good.

To enable practitioners to judge of the size of the apparatus which their practice may require, the quantities of oxygene air which each size can produce at one operation are recapitulated.

The largest apparatus can produce about four cubic feet at one operation; which will require four of the largest or eight second-sized air-holders to contain it; a great number of air-holders may be necessary, because some patients may require the air to be sent out to them, and may not use it so fast as others. In such cases, especially where the administration of the air is likely to be continued some time, it would seem reasonable that such patients should pay for their own lined silk bags, if not for the air-holders.

The second-size apparatus will produce about two cubic feet of oxygene air in each operation; which will require two largest or four second-sized air-holders to contain it.

The portable apparatus produces three gallons of oxygene air at each operation; which requires one second-size or two smallest air-holders to contain it.

As the charcoal does not waste fast in the operation for hydro-carbonate air, the operation may be continued with propriety until double the above quantities are produced in the respective apparatuses; but it is evident, that in such cases, a proportionate number of air-holders must be provided for this air, in addition to those required for oxygene.

From the above it will appear, that the largest apparatus is necessary for hospitals, practitioners of great practice, or who do not choose to resort often to a fresh operation: the second size to practitioners of more confined practice; and the portable apparatus to patients who choose to prepare their own airs, and to gentlemen who wish to try experiments. To those who require considerable quantities of air, the frequent repetition of the process with this portable apparatus will be found troublesome; and it is further to be remarked, that the consumption of fire-tubes is less in pro-

portion to the quantities of air produced in the larger than in the smaller apparatus; and that nothing will tend more to avoid unnecessary repetitions of operations, than the being provided with a sufficient number of air-holders, or other proper recipients for the air.

The smallest air-holders, containing six quarts, are convenient for sending out air to patients at their own houses.

Oxygene Fire-tubes, when new, ought always to be prepared by filling them with fresh slaked lime, and keeping them an hour red hot, as has been directed above; but hydro-carbonate tubes ought not to be so prepared, otherwise the air obtained from them will not have the power of causing vertigo*.

We cannot take our leave of this subject in terms more congenial with our sentiments, than in adopting the language of Fourcroy, who, in an interesting memoir read in the medical school at Paris, "*On the application of pneumatic chemistry to the practice of medicine, and on the medical properties of oxygenated substances*," gives the following as his "*profession de foi*."

After an appropriate introduction, alluding to the practical advantages resulting from new chemical discoveries, and the good effects to be expected from them in medicine, he thus proceeds: "But if I confidently announce the hope of a happy and approaching revolution in the art of healing, I ought, while I appear to encourage such a change, to resist the dangerous consequences of that petulant activity, which inflames instead of enlightening the mind; of that premature love of innovation, which is eager to destroy without being able to raise any structure on the scattered ruins; I fear, I confess, as much from these imprudent innovators, as I apprehend from the zeal of the adherents to old systems. If the latter set their faces against the progress of reason, the former are anxious to precipitate themselves into errors, by exaggerations not less dangerous. I am equally an enemy to the innovating folly of the one, and to the dull inactivity of the other.—I reject the pretended sufficiency of the Brunonian doctrine for every medical theory, as well as the indiscreet attempt of explaining every-where the mechanism of animal life, by a chemical action. I undoubtedly am desirous of a revolution in the theory of medicine; it is the object of my prayers; I have foretold it these fifteen years in my lectures; I have every-where proclaimed it in my works; I shall forward its progress with all my power and abilities:—but I wish for a revolution, wise, moderate, and reflecting. I do not burn the old books, with Paracelsus; I do not break the pneumatic vases; I do not at once proscribe every

* This apparatus, which is sold by Beulron and Watt, is also furnished with some auxiliary parts, described in Mr. Watt's pamphlet.

species of medical knowledge: I preserve all that exists, and do not sacrifice this knowledge to any new applications, or to a doctrine hitherto built upon sand. It would be injudicious to abandon what we have industriously acquired; to extinguish at once the light kindled by long experience; and to exchange it for that *theoretical empiricism*, which directs the medical practitioner to embrace a phantom."

END OF THE SECOND VOLUME.

INDEX

TO

THE SECOND VOLUME.

A.		PAGE			PAGE
ABORTUS	-	232	Appetite, want of	-	541
Adynamia	-	339	Appetitus deficientes	-	ibid.
Adipsia	-	541	erronei	-	528
African cachexy	-	537	Aqua mephitica alkalina	-	573
Aghcusiia	-	527	Ardent spirits as poison	-	325
Air, oxygen	-	629	Arteries, carotid, aneurisms of	-	588
hydrocarbonate	-	ibid.	Arthropoosis	-	1
holders	-	630	Ascites	-	475
zincic	-	632	spontaneous	-	ibid.
ferric hydrogene	-	ibid.	exanthematic	-	ibid.
facilitious, doses of	-	633	plethoric	-	ibid.
Alkali to counteract mineral poisons	-	602	Atrophia	-	462
Amaurosis	-	518			
Amblyopia crepuscularis	-	521	B.		
Amenorrhœa	-	576	Banos di tierra	-	184
Amentia	-	451	Barracuta	-	610
Ammonia, hepatised	-	549	Beddoes, Dr.	-	151, 214
Anasarca	-	468	Belly, dropsy of	-	475
Anæsthesia	-	528	Black-bill sprat	-	611
Anaphrodisia	-	542	Blane, Dr.	-	588
Angina pectoris	-	342	Bleeding, cautions as to, in phthisis	-	186
gangrenosa	-	101	repeated	-	180
Anginosa, scarlatina	-	ibid.	at the nose	-	150
Anomalous measles	-	82	internal	-	243
Anorexia	-	541	Bloody flux	-	268
Anosmia	-	527	Blood, spitting of	-	154
Antidotes for poison	-	602	flux of	-	546
Aphtha	-	149	Bottle-fish, smooth	-	612
Aphonia	-	542	Brain, dropsy of	-	293
Apocenosos	-	546	Breast, dropsy of	-	473
Apoplexia	-	288	Breathing, difficulty of	-	394
Apoplexy, sanguineous	-	289	Bulimia	-	528
serous	-	290	Buffarah	-	15
hydrocephalic	-	293			
from atrabilis	-	318	C.		
from external violence	-	ibid.	Cachexia	-	462
from poisons	-	ibid.	Cachexia Africana	-	537
from passions of the mind	-	328	Calculi, intestinal	-	411
cataleptic	-	ibid.	Caligo	-	517
from suffocation	-	333	Canine appetite	-	528
Appendix	-	627	madness	-	442
Appetite, false	-	536			

INDEX.

	PAGE		PAGE
Cantharides, poison by	609	Difficulty of discharging urine	568
Capsicum	616	_____ of breathing	394
Cardiac syncope	339	_____ of emitting semen	575
Cardialgia	595	Digestion, depraved	353
Carotids, aneurism of	588	Digitalis purpurea	190
Cataleptis	328	Dimisdale, baron	39
_____ cases of	329	Dirt-eating	537
Cataract	517	Dolor faciei	616
Catarrh, symptomatic	247	Dropsy of the brain	472
_____ contagious	250	_____ of the breast	473
_____ use of the inhaler in	254	_____ of the abdomen	475
Cavallee	609	_____ of the uterus	490
Cephalalgia	577	_____ of the scrotum	ibid.
_____ idiopathica	583	Dry vomit	182
Change of air	175	Dumbness	544
Charcoal, vapour of	319	Dysæsthesiæ	517
Chicken pox	80	Dyscinesie	542
Chincough	396	Dyscoeca	525
Chlorosis	361	Dysenteria	268
_____ virginica	ibid.	Dysentery	ibid.
_____ amatoria	ibid.	_____ mode of treating in hot climates	276
Cholera	411	Dyslopia	519
_____ spontaneous	ibid.	_____ proximorum	520
_____ accidental	412	_____ distitorum	ibid.
Chorea	378	_____ lateralis	ibid.
Cinets	521	Dysorexiæ	528
Clyster, vitriolic	245	Dyspepsia	353
Coeliac passion	420	Dyspermatismus	575
Cold, catarrh from	247	Dyspnoea	294
Colica	402	_____ catarrhal	ibid.
_____ spasmodica	ibid.	_____ dry	ibid.
_____ pistorum	407	_____ from changes of weather	395
_____ stercoria	410	_____ from earthy substances	ibid.
_____ meconialis	411	_____ watery	396
_____ callosa	ibid.	_____ from corpulency	ibid.
_____ calculeosa	ibid.	Dysuria	568
Colon, callosity of	ibid.	_____ calculosa	ibid.
Comata	288		
Confirmed phthisis	162		
Constitutions, epidemic	124	E.	
Consumption	203	Earth-bath	184
_____ cautions as to bleeding in	186	Elephantiasis	510
_____ nervous	462	Emphysema	465
Contagion, catarrh from	257	Emission, difficult	575
Contractura	545	Empoisthotonos	365
Convulsions	377	Enuresis	549
Corpulency	463	Ephidrosis	547
Costiveness	551	Epilepsia	380
_____ colic from	410	_____ cerebrales	ibid.
Cough	207, 394	_____ sympathica	381
		_____ occasionalis	ibid.
D.		Epidemic constitutions	124
Daucus sylvestris	573	Epiphora	547
Deafness	525	Epistaxis	551
Diabetes	421	_____ with blisters	150
_____ with sweet urine	ibid.	_____ with phlyctenæ	2
_____ with insipid urine	ibid.	Exanthemata	8
Diarrhoea	414	Excessive perspiration	1
_____ feculent	ibid.	_____ thirst	547
_____ bilious	415	Exercise	534
_____ mucous	ibid.		176

INDEX.

	PAGE		PAGE
		Hydrocephalic apoplexy	293
		Hydrometra	490
		Hydro-carbonate gas	161, 621
		Hydrogene gas	204
		Hydrophobia	442
		———— rabiosa	ibid.
		———— spontanea	450
		Hydro-rachitis	473
		Hydro-thorax	ibid.
		Hypochondriasis	358
		———— melancholica	ibid.
		Hysteria	439
F.		I.	
Face-ach	616	Icterus	511
Faciei, dolor	ibid.	Idiotism	451
Factitious airs	204	Iliac passion	402
False appetite	536	Impetigines	491
Fainting	339	Impotence	442
Febriculofum	394	Incipient phthisis	162
Feeling, depraved	528	Incontinence of urine	549
Fever, scarlet	97	Incubus	461
———— mild scarlet	98	Infants, locked jaw of	376
———— with ulcerated forethroat	ibid.	———— colic of	411
Fire tubes, oxygene	635	———— jaundice of	517
Fifth poison	612	Inhaler	184, 254
Flooding	236	Inhalation, mode of	633
Fluor albus	237	Inoculation, variolous	69
Flux, of the lachrymal humour	547	Infantry	456
———— of urine	549	Introsufception	403
Folly	451	Intumescenciæ	403
Fourcroy	635	Ischuria	556
Frambæsia	510	———— renalis	ibid.
Furor uterinus	540	———— ureterica	566
		———— paralytica	567
G.		J.	
Gas, oxygene	629	Jacob's water	607
———— hydrocarbonate	ibid.	Jaundice	511
———— ferric hydrogene	631		
———— carbonic acid	ibid.	K.	
———— zincic	632	King fish	612
Gestation	176	King's evil	491
Gonorrhœa	550	Kuritiha slepota	521
Green sickness	361		
Gum, in infants	517	L.	
Gutta serena	518	Lachrymal humour, flux of	547
		Leipothymia	340
H.		Lepra	510
Hæmoptysis	154	Leucorrhœa	237
———— from plethora	ibid.	Lientery	420
———— from external violence	ibid.	Limbs, contracted	545
———— with phthisis	ibid.	Locales	517
———— calculous	155	Lochial discharge, immoderate	236
———— vicarious	ibid.	Locked jaw	376
Hæmorrhagiæ	150	———— in infants	ibid.
Hæmorrhoids	221	———— from wounds or cold	ibid.
Head-ach	577	Longing	537
———— chronic	504		
Hearing, depraved	526		
Heartburn	595		
Hemiplegia	334		
Hemlock dropwort	323		
Hepatic flux	421		
Hepatised ammonia	549		
Hereditary diseases	491		
Holy wells	571		
Hooping cough	306		
Houlston, Dr. his cases of poison	323		
Hunger, insatiable	528		
Hydrocele	490		
Hydrocephalus	472		

INDEX.

	PAGE		PAGE
Longing for home	541	Palsy of one side	ibid.
Looseness	414	— from poisons	338
Loss of voice	544	— partial	335
Lues venerea	497	Paracufis	526
Lumbago	1, 449	Paraphonia	544
		Paralysis	333
M.		Paraplegia	334
Madeira, climate of	170	Partial palsy	333
Madder	577	Paste for fistula, Ward's	229
Madness, melancholy	452	Pediluvium	327, 159
— furious	ibid.	Pemphigus	141
Mal d'estomac	537	Perca marina	611
Mania	452	— major	ibid.
Marcores	462	Perception, false	452
Measles	82	Perceival, Dr. his cautions in phthisis	168
— with small pox	71	— his cases of hydrocephalus	296
— with putrid diathesis	82	— causes of calculus	570
Meconium, retention of	411	Pertussis	396
Melancholia	451	Pestis	8
Melæna	599	Phthisis	162
Menorrhagia	230	— confirmed	ibid.
— abortus	232	— incipient	ibid.
— vitiorum	337	— of manufacturers	216
— lochialis	236	Physconia	491
Menses, immoderate flow of	237	Phyometra	468
— suppressed	576	Pica	537
Miliaria	92	Piles, external	221
Miliary eruption	93	— from procidentia ani	ibid.
Morbus mucosus	268	— running	ibid.
— niger	599	— blind	ibid.
Moseley, Dr.	276	— mucous	ibid.
Mudge, Dr.	184	— pitch, a remedy for	229
Mutitas	544	Pineal gland, tumor of	590
		Plague	8
N.		— cases of	15
Nettle rash	137	— duty of magistrates in	18
Nervous consumption	462	— Dr. Russel on	9
Neuroses	288	Plica polonica	510
Nightmare	461	Pneumatic medicine	627
Nirles	83	— apparatus	628
Nitric acid	438	Pneumatosis	465
Noctalgia	541	Pneumonia	383
Nymphomania	540	Poisons	602
		— fish	609
O.		Polypus of the heart	340
Obesity	463	Polyfarcia	463
Obstipatio	551	Polydipsia	534
Obstructed perspiration	247	Preparation for small pox	69
Occasional syncope	339	Procidentia ani	221
Oenanthe	325	Profluvia	247
Oenodinia	461	Profusio	546
Opisthotonos	365	Pronunciation, defective	545
Ostracion	612	Psellismus	ibid.
Oxygene air	629	Pseudoblepsis	ibid.
		Ptvalismus	547
		Pulmonary consumption	162
		Putrid diathesis, measles with	82
		Pyrosis	400
P.			
Palpitatio	388	Q.	
Palsy	334	Quinsy, measles with	82

INDEX.

	PAGE		PAGE
		Syncope occasional	ibid.
R.		anginosa	342
Rabies	442	Syphilis	497
Rachitis	491		
Raphania	379	T.	
Regular measles	82	Tabes	462
Revulsion	281	Tainsh, Mr. his cases of plague	15
Reubeola	82	Tasting, depraved	527
Rickets	491	Tenefmus	418
		Tetanus	363
S.		Thirst, excessive	534
St. Anthony's fire	2	want of	541
St. Vitus's dance	378	Thrush	149
Sanguineous apoplexy	289	Tinnitus aurium	16
Salivation	547	Tremor	338
Satyrifasis	539	Trichoma	510
Savine	577	Trismus	376
Scamber	611	nascentium	ibid.
Scarlatina	96	from wounds or cold	ibid.
anginosa	101	Tumor of the pineal gland	590
Scorbutus	498	Tunchall, valley of	178
Scurvy	ibid.	Tympanites	466
land	509		
Scrophula	491	U.	
Scybala	282	Uneasiness in sleep	461
Sea scurvy	498	Urinary calculus	568
lobster	612	Urine, difficulty of	ibid.
Semen, difficult emission of	575	involuntary flux of	549
Serous apoplexy	290	suppression of	556
Simarouba	416	profuse	421
Sleep, uneasy	461	Urticaria	137
caused by hydrocarbonate gas	216	Utero, small pox in	48
Small pox	34	Uterus, windy swelling of	468
distinct	ibid.	Uva ursi	575
confluent	ibid.		
inoculated	39	V.	
preparation for	69	Varicella	80
with measles	71	Variola	34
a second time	75	Variolodes	82
in utero	48	Venereal disease	497
Smelling, depraved	526	Venery, impotence to	542
Solanum nigrum	184	Vesaniae	451
Somnambulism	461	Vision, depraved	519
Soup, portable	509	imaginary	525
Spasmi	363	defect in	523
Spasmodic colic	402	Vitriolic solution	183
Spirituos liquors, poison by	325	Voice, loss of	542
Spina bifida	473	altered	544
Spitting of blood	154		
Squinting	545	W.	
Stone in the bladder	568	Want of appetite	541
Strabismus	545	of thirst	ibid.
Strangury	46	Ward's paste	229
Suppression of menses	576	Warm bath	327
of urine	556		
Swinging	179		
Sympathetic epilepsy	381		
Syncope	339		
cardiac	ibid.		

INDEX.

	PAGE		PAGE
Waiting of body	462		
Water, Jacob's, a poison	606		
Watt, Mr.	215	Xiphias	612
Water-brash	400		
Water in the head	293, 472		
Wells, holy	571		
Whites	237	Yaws	516
how distinguished from gonorrhoea	241		
Windy swelling	465		
of the uterus	468	Zincic gas	632

July 9th

Joh

[Handwritten signatures and initials, including "J. D." and "J. L."]

T. Davison, White Friars. T. Davison White Friars.

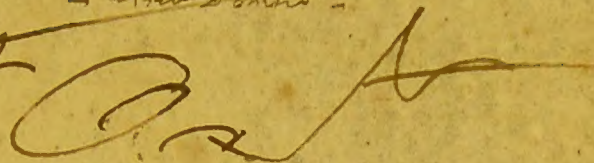
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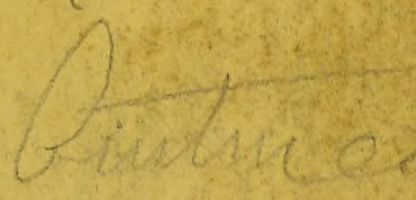
10th 

December

~~78~~
~~232~~

December 21st

~~58~~
~~192~~

Cantharides 

December 21st

Sept. 16

